

GenCore version 5.1.6  
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OM nucleic - nucleic search, using sw model

Run on: July 28, 2005, 08:29:34 ; Search time 660.916 Seconds  
(without alignments)  
15733.537 Million cell updates/sec

Title: US-09-551-494-5  
Perfect score: 6355  
Sequence: 1 gatgtttaataagtttcga.....taaccgcgtagcgccca 6355

Scoring table: IDENTITY NUC  
Gapop 10.0 , Gapext 1.0

Searched: 1202784 seqs, 818138359 residues

Total number of hits satisfying chosen parameters: 2405568

Minimum DB seq length: 0  
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%  
Maximum Match 100%  
Listing first 45 summaries

Database : Issued Patents NA: \*  
1: /cgn2\_6/ptodata/1/ina/5A\_COMB.seq: \*  
2: /cgn2\_6/ptodata/1/ina/5B\_COMB.seq: \*  
3: /cgn2\_6/ptodata/1/ina/6A\_COMB.seq: \*  
4: /cgn2\_6/ptodata/1/ina/6B\_COMB.seq: \*  
5: /cgn2\_6/ptodata/1/ina/PTUS\_COMB.seq: \*  
6: /cgn2\_6/ptodata/1/ina/backfiles1.seq: \*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2468	38.8	6395	3	US-09-259-741-1 Sequence 1, Appli
2	2468	38.8	6395	3	US-09-037-751-1 Sequence 1, Appli
3	2468	38.8	6395	3	US-09-466-422-1 Sequence 1, Appli
4	2468	38.8	6395	4	US-09-962-527-1 Sequence 1, Appli
5	2466.4	38.8	6395	4	US-08-687-559-2 Sequence 2, Appli
6	2466.4	38.8	6395	4	US-09-401-415-2 Sequence 2, Appli
7	2455.4	38.6	6439	3	US-09-259-741-2 Sequence 2, Appli
8	2455.4	38.6	6439	3	US-09-037-751-2 Sequence 2, Appli
9	2455.4	38.6	6439	4	US-09-466-422-2 Sequence 2, Appli
10	2455.4	38.6	6439	4	US-09-962-527-2 Sequence 2, Appli
11	2452.2	38.6	6475	3	US-09-259-741-4 Sequence 4, Appli
12	2452.2	38.6	6475	3	US-09-037-751-4 Sequence 4, Appli
13	2452.2	38.6	6475	3	US-09-466-422-4 Sequence 4, Appli
14	2452.2	38.6	6475	4	US-09-962-527-4 Sequence 4, Appli
15	2449.8	38.5	6446	3	US-09-259-741-5 Sequence 5, Appli
16	2449.8	38.5	6446	3	US-09-037-751-5 Sequence 5, Appli
17	2449.8	38.5	6446	4	US-09-466-422-5 Sequence 5, Appli
18	2449.8	38.5	6446	4	US-09-962-527-5 Sequence 5, Appli
19	2431.2	38.3	6425	3	US-09-259-741-3 Sequence 3, Appli
20	2431.2	38.3	6425	3	US-09-037-751-3 Sequence 3, Appli
21	2431.2	38.3	6425	4	US-09-466-422-3 Sequence 3, Appli
22	2431.2	38.3	6425	4	US-09-962-527-3 Sequence 3, Appli
23	2286.6	36.0	7685	3	US-09-502-710-22 Sequence 22, Appl
24	2286.6	36.0	7685	3	US-09-502-710-25 Sequence 25, Appl
25	2286.6	36.0	7685	3	US-09-502-711-22 Sequence 22, Appl
26	2286.6	36.0	7685	3	US-09-502-711-25 Sequence 25, Appl
27	2286.6	36.0	7685	4	US-09-565-616A-1 Sequence 1, Appli

28	2286.6	36.0	7686	3	US-09-502-710-23 Sequence 23, Appli
29	2286.6	36.0	7686	3	US-09-502-711-23 Sequence 23, Appli
30	2286.6	36.0	7687	3	US-09-502-710-24 Sequence 24, Appli
31	2286.6	36.0	7687	3	US-09-502-711-24 Sequence 24, Appli
32	2286.6	36.0	7688	3	US-09-502-710-27 Sequence 27, Appli
33	2286.6	36.0	7688	3	US-09-502-711-27 Sequence 27, Appli
34	2285	36.0	7926	3	US-09-502-554-1 Sequence 1, Appli
35	2285	36.0	7926	3	US-09-726-648-1 Sequence 1, Appli
36	2285	36.0	7926	4	US-10-119-330-1 Sequence 26, Appli
37	2283.4	35.9	7686	3	US-09-502-710-26 Sequence 26, Appli
38	2283.4	35.9	7686	4	US-09-565-616A-2 Sequence 2, Appli
39	2283.4	35.9	7686	4	US-08-488-672-4 Sequence 4, Appli
40	693.2	10.9	1425	1	US-08-708-354-4 Sequence 4, Appli
41	690	10.9	1425	4	US-08-553-619B-6 Sequence 6, Appli
42	302.4	4.8	2173	2	US-08-176-414B-1 Sequence 1, Appli
43	270.2	4.3	1825	1	US-08-336-724-1 Sequence 1, Appli
44	270.2	4.3	1825	2	US-09-565-616A-3 Sequence 3, Appli
45	267.8	4.2	807	4	

## ALIGNMENTS

RESULT 1  
US-09-259-741-1  
; Sequence 1, Application US/09259741  
; Patent No. 6033895  
; GENERAL INFORMATION:  
; APPLICANT: GARGER, STEPHEN  
; APPLICANT: HOLTZ, R. BARRY  
; APPLICANT: MCCULLOCH, MICHAEL  
; APPLICANT: TURPEN, THOMAS  
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
; TITLE OF INVENTION: PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES FROM PLANT  
; TITLE OF INVENTION: SOURCES  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Howrey & Simon  
; STREET: 1299 Pennsylvania Avenue N.W.  
; CITY: Washington  
; STATE: DC  
; COUNTRY: USA  
; ZIP: 20004  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; COMPUTER: IBM Compatible  
; OPERATING SYSTEM: DOS  
; SOFTWARE: FASTSEQ for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/259,741  
; FILING DATE: February 25, 1999  
; CLASSIFICATION:  
; PRIORITY APPLICATION DATA:  
; APPLICATION NUMBER: 09/037,751  
; FILING DATE: March 10, 1998  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Halluin, Albert P  
; REGISTRATION NUMBER: 25,277  
; REFERENCE/DOCKET NUMBER: 00801.0140.US01  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 650-463-8100  
; TELEFAX: 650-463-8400  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 6395 base pairs  
; TYPE: nucleic acid  
; STRANDEDNESS: single  
; TOPOLOGY: unknown  
; MOLECULE TYPE: Genomic RNA  
US-09-259-741-1

Query Match 38.8%; Score 2468; DB 3; Length 6395;





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RESULT 2  
 US-09-037-751-1  
 ; Sequence 1, Application US/09037751  
 ; Patent No. 6037456  
 ; GENERAL INFORMATION:  
 ; APPLICANT: GARGER, STEPHEN











798 UUGACGAAUUAACCGCGUGUUUUUUGCGGAUGGAGACAAGUUGACCUUUUUUUUGCA 857  
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918 ACUUAUCCCGGCUUAUAGAGAGUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 977  
980 AATACTTGGTTTGTAAATTTACCAAGTAGACTATATCTCTACAGAGTGTAGA 1039  
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1040 CAAGTAGGCTGTAGTAGTATCAGTTCTATGAGGAGTGAAGAGCGCTTGTCTTACAG 1099  
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1934 AAAAGCAGCGGCTCTGAGGCGGTGTGTGTCTTGAACCGACATCCGAAGAGGTGAACGTA 1993  
1938 CAAGAGAGGCUUCAGAGAGGUGCAUUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 1997  
1994 AATAAATTTTCTATTTCTGTAAGAGGAGATTGCTGTGTGTGTCAGAAAGTCTATGTTTG 2053  
1998 AUGAAGGUGUGAUGGCGCAGAGAGAGUUACAUAUUGCUGGUGUUUUGGAGAUCAUCCG 2057  
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2058 GAGUUGCUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2117  
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2118 GCAGAUUCGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2177  
2174 CAACAAATGAAAGAACTATGTGACAGTTTGGCAGCTTCTGTCCTCCGACCTGTATCAAT 2233  
2178 CAGCAAAUGAAAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2237  
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2238 CUGGUCAGAUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2297  
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2354 GGAGTTGCTGATTAACAAGGGAATGTTTACTGCACTTCTATCTTATGAAGGAT 2413  
2358 GGUGUGUUAAGAACCCACGCGAGGAUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2417  
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2418 GGUGUGGAGCAUGGGAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2477  
2474 TCTGATATGCAAAAGCTCAAAATCTGAGGAAAAACAATGAGAGAGCGGTGAACCCCAAGAA 2533  
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2538 AGUAGCGAAAGGUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2597  
2594 TTTGAAAGATTTGATGAGGATTTGATTTGTTTCTGTTCTGGAAGAAACAAGCTGCTGT 2653  
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2658 AUGAUCAGAGAGCGGCAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 2717  
2714 ACGGTAGATTCATCTTCTAATGCT-----CCAAAACCGCATCACAAGAGGCTT 2764  
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2778 UUA 2837  
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Db 5175 UCUGGUGGACAAAGGAAGGAGACCGACGAGGCCACUCUCGGAUCUUAUACACACG 5234  
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 Qy 5282 TGCTGAGAACGACCCGTCGAGAGTGTAGTGAATTAACAAGGAGTGCTGTATGGAAGAAG 5341  
 Db 5295 CGCGAAGAAAGACGUCGCGAAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5354  
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 Qy 5562 -----AAGAAATAAATCAAGTGTGAAGAGGGTTTTTAAATTTGAGAAATTCAGGA 5614  
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 Qy 5966 CCGCGACCGAATTAATCTGTAATGTTTAAAGCTGACGAGGTTAGACGATGCTACTGTA 6025  
 Db 6012 GCGAACCCACGACGCGGAGAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 6071  
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 Db 6072 GCCAUAAGGAGCGCAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 6131  
 Qy 6086 AATCAGCAGCTTTGAGCTGTAGTGGACTGTCTGGACCACTCTCGGCTACTTAG 6145  
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 Qy 6146 CTATTGTTGAGATTTCTTAAATAAAGTCGCTGAAGACTTAAATTCAGGTTGGCTGA 6205  
 Db 6189 -UGAGGUGAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 6246  
 Qy 6206 TACCAAAATCAGCAGTGTGTTGCTGCTCACTTAATATAACGATTTGTCATCTGATCC 6265  
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Qy 6266 AACAGTTAAACCATGTGATGTTATATCTGTATGCGTAAACATCGGAGAGTTGCG 6325  
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 RESULT 4  
 US-09-962-527-1  
 ; Sequence 1, Application US/09962527  
 ; Patent No. 6740740  
 ; GENERAL INFORMATION:  
 ; APPLICANT: GARGER, STEPHEN  
 ; HOLTZ, R. BARRY  
 ; MCCULLOCH, MICHAEL  
 ; TURPEN, THOMAS  
 ; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
 ; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
 ; FROM PLANT SOURCES  
 ; NUMBER OF SEQUENCES: 5  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Howrey & Simon  
 ; STREET: 1299 Pennsylvania Avenue N.W.  
 ; CITY: Washington  
 ; STATE: DC  
 ; COUNTRY: USA  
 ; ZIP: 20004  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Diskette  
 ; COMPUTER: IBM Compatible  
 ; OPERATING SYSTEM: DOS  
 ; SOFTWARE: FastSeq for Windows Version 2.0  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/09/962,527  
 ; FILING DATE: 24-Sep-2001  
 ; CLASSIFICATION: <Unknown>  
 ; PRIOR APPLICATION NUMBER:  
 ; APPLICATION NUMBER: 09/037,751  
 ; FILING DATE: 10-march-1998  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Halluin, Albert P  
 ; REGISTRATION NUMBER: 25,277  
 ; REFERENCE/DOCKET NUMBER: 00801.0140.999  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: 650-463-8109  
 ; TELEFAX: 650-463-8400  
 ; TELEX: <Unknown>  
 ; INFORMATION FOR SEQ ID NO: 1:  
 ; SEQUENCE CHARACTERISTICS:  
 ; LENGTH: 6395 base pairs  
 ; TYPE: nucleic acid  
 ; STRANDEDNESS: single  
 ; TOPOLOGY: unknown  
 ; MOLECULE TYPE: Genomic RNA  
 ; SEQUENCE DESCRIPTION: SEQ ID NO: 1:  
 US-09-962-527-1  
 Query Match 38.8%; Score 2468; DB 4; Length 6395;  
 Best Local Similarity 44.6%; Pred. No. 0;  
 Matches 2851; Conservative 1173; Mismatches 2300; Indels 66; Gaps 11;  
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 Db 18 ACCAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACA 77  
 Qy 80 ATACAATCTATTAATTAGCAACGCCCTTTTGAAGCGTGTAGTGTGTAACAACTCTGTT 139  
 Db 78 ACACAGACAGCACCACAUCAUCAGCUUUGUGGACACUUGCCGAGAAACAACUCCUUGUC 137  
 Qy 140 AATGACCTTGCAAGAAGCGCGCATGTACGATACGCGCTGTGAAGAATTTAAACCCGCGAC 199

138 ANUGAUCUAGCAAAGCGUGUCUUUAACACACAGCGGUUGAAGAGUUUAACGUCUGUAC 197  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
200 CGTAGACAAAGGTCAACTTTTCCAAACTATTAGCGAAGAGCAAAACGCTTCTAGTCTCC 259  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
198 CGCAGGCCCAAGGUGAACUUUUAACAAAGUAUAAGCGGAGGAGCAGCGUUUAUUGCUACC 257  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
260 AACGGGTACCCGGAGTTCAGATTACCTTTTATTAATCTAATAATGCGGTACAGTTTG 319  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
258 CGGGCGUAUCAGAAUUCCAAUUUAACACGCAAAAUUGCCGUGCAUUCGCUU 317  
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320 GCTCGAGGTTTGAGAGCATTAAGATTGAATATCTGATCTACAGTTTCCCTATGGATCG 379  
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318 GCAGGUGAUGCGAUCUUUUAAGACUGGAUAUCUGAUGCAAAUUCUUCCUACGGAUCA 377  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
380 CCGACATATGATAGTGGGAACCTTTGCGACGACATTTGTTCAAAGGCAGGGAATTACGTG 439  
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378 UUGACUUAUGACAUGGGCGGAUUUUGCAUUGCAUCUGUUAACAGGGACGAGCAUAUGUA 437  
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440 CATTGCTGTATGCCCAATCTCGGACATACGAGATATATATGAGGCGACGAAGGACAAAGGAC 499  
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500 TCAATTGAGATGATTGTCTCAGATTGCTCGTCTTAACAGGTAATTCCTGAGTTCAA 559  
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498 AGUAUUGAAUAUACUUUUGGCUAGAGAGAGGGGGGAAACAGUCCCCAAUCUCCAA 557  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
560 AGGGAGGCTTTTAAACAGATATGCGAAGCTCCCAACGAAGTCTGCTGCTCTTAAACATTTT 619  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
558 AAGGAGCAUUGACAGAUACGAGAAUUCUGNAGAGCGUGUGUCACAUAUUCUUC 617  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
620 CAGGATGTCGAATACATCCCGCAGAGAAATAGTGAGAGATACGCTGTTGCTCTGAC 679  
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618 CAGACAAUGCGACAUCAGCCGAGUUGUUGGAGGAGUUGCCAUUGCGCUACAC 677  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
680 AGTTTGATGATATTCCTGTGATGAGTTTGGAGCTGCTGAATATCTAAGAAATATACAT 739  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
678 AGCAUAUAGACAUACCGCGAGUAGUUGGGCGGCAUCUUGAGGAAAUUUGUCCAU 737  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
740 GTATGTTATGAGCTTCCATTTTGGCAGAGCATTTATTACTAGACGAGGAGTTACG 799  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
738 ACUGUUAUGCGGUUCCAUUCUCCGAGAACUGUUCUUGAAGAUUAUACGUCAAU 797  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
800 CTTAATGAANTAGGGGCAACTTTCAAAGAGAGGTGATGATGTTCTTTTCTTTGCT 859  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
798 UUGACGAAAUCAACGCGUGUUUUCGCGGAUGGAGACAAGUUGACCUUUUUGCA 857  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
860 GATGAAGTACTTTAAATATAGTCATAAATACAAATAATCTTCATATGATGATTA 919  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
858 UCAGAGAGUACUUUAUUUUGCAUAGUUUAUUCUUAUUUUGAUGUGUCCAAA 917  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
920 TCTTACTTTCCTGCTTCTAGTAGAATAGTTTACTTTTAAAGGAATTTTATGCTACATAGGTT 979  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
918 ACUUAUUCUCCGGCCUUAUAGAGAGUUUAUCAUGAAGGAGUUUUUAGUACACAGAGUU 977  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
980 AATACTTGTTTGTAAATTTACAAAGTAGATACCTATATCTGTACAAGAGTGTAGA 1039  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
978 AAUACUGGUUUUGUAAGUUUUCAGAAUAGAUUUUUUUGUACAAAGGUGUGGCC 1037  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1040 CAAGTAGGGTGTGATGATGATCTCTATGAGCGGATGGAAGACGCTTGTCTTACAAG 1099  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1038 CAUAAAGUGUAGUAGUAGAGUUUUUAUCUGCAUUGGAAGACGCAUGGCAUUAACAA 1097  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1100 AAAACCTTTGGGCATGTTCAACACTGAAAGAGCAATCTTTTAGAGACACGGCTTCGGTTAAC 1159  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1098 AAGACUUGCAAUUGUGCAACAGCGAGAGAAUCCUCCUUGAGAAUUAUUAUACAGUCAAU 1157  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1160 TTTTGGTTCCTAGATGAAGGACATGTTGATAGTACCGCTGTTTGAGGGTTCTATTACC 1219  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1158 UACUGGUUUUCCAAAUGAGGGAUUGGUCUACGUACCAUUAUUGCAUUAUUGGAG 1217  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1220 AGCAAAAAGATGACAAGGAGTGAGTCAATTGTTTAATCGTGTCTGTTTACACAGTGTCT 1279  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||

1218 ACUAGUAAGAGGACGCGCAAGGAAGUUCUAGUGUCCAAAGAUUUUGUUUAACAGUCUU 1277  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1280 AATCATATCAGACATATCAAGCAAAAGCGTTAACTTTACAGAAACGTATTATCTTTG 1339  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1278 AACCAUAUCGAAACAUACACAGGCGAAAGUCUUAUACGAAAUUUUUUGUCCUUGUC 1337  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1340 GAGTCTATAAGATCCCGGTGATATCAATCAATGGTGTACTGCTAGTCTGAATGGATGTA 1399  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1338 GAUCGUAUCGAGGAGGUUAUCAUUAACGUGUGACAGCGAGGUGCCGAUUGGAUGUG 1397  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1400 GATAAACAATTTCTCAACCTTTGTCAATGACTTTCTTTTGCAGACTAAAGCTCGCTGCG 1459  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1398 GACAAUUCUUGUUAACAUUCUUGUCCAGUACGCUUUAACCGCAUAUUAAGUCCGCU 1457  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1460 CTTCAAGACGATATAGTAATGGGAAAGTTTTCGGTGTGTTGGATAGACAACCTTTCTGA 1519  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1458 CUNAAAGUAGACUUAUGAUUAGCAGUUAUAGUCUGGUUCGAAACGGUGGCGAGCAU 1517  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1520 ATTTGGGATGAGGTGGGCAATTTTGGGAAACGTTTTTCCCACTATCAAGAGAGATTG 1579  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1518 GUGUGGAGUAGAGAUUUCGUGGCGUUUGGGAACGAUUUCCUCCGUGAAAGAGAGACUC 1577  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1580 GTGAGCAGGAAATTTCTGATGTAAAGTGAGAAATCTCTGAAGATCAAGATCCCAGATCTG 1639  
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1578 UUGAACAGGAAACUUAUCAGAGUGGCGAGCGACGCAUUAAGAGAUACAGGUGCCUGAU 1637  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1640 TATGTCAATGGAAAGACAGGTTCTGTAGTGAATACACCAAGTCTGAGGATTAACCGAT 1699  
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1638 UAUGAGACCUCCACGACAGAUUAGUCUGUACAAAGCGCUCUGUGGACAUCGCCUGCG 1697  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1700 CTAGATATCAAGAGGACTTAGAAGAGCTGAGCAAAATGTACGACGCTTATCAGAAATTA 1759  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1698 CUUGCAUUGGAAAGAAUGGAAACCGGAAGUGAUGUACAACUUCUUCAGAGUUA 1757  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1760 TCTATCTTAAAGGTGCTGATATTTCCGATATCCGAAAGTTTCAAAGACATGTGCAAGGCT 1819  
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1758 UCGGUUAAGGAGUUCUGACAAAUUCGAUUGAUUUAUUCUCCAGAGUGCCAAUCU 1817  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1820 TTAGATGTTAGTCTGTAGTGGGACGAGTAACTCTTGTGAGTGGCGGCGAGAAATAGAGC 1879  
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1818 UUGAAGUUGACCCAAUAGACGCGAGCGAAGAUUUAUUGCGGUCUAGCAUUGAGAGC 1877  
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1880 GGTTTAATCTCTTCTTTGATAAGCCAAACGAGAGAAATGTGCTTAAGGCTCT-----T 1933  
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1878 GGUUGACUCUCACAUUUUGAACGACCUACUAGCGGAUUGUUGCGUAGCUUUUAACAGAU 1937  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
1934 AAAAGCAGCGCTCTGAGGCGCTGATGTCTTGAACCGACATCCGAAGAGGTGAAACGTA 1993  
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1938 CAAGAGAGGCUUCAGAGGUGCAUUGUAGUUAACCUCAAGAGAGUUAAGAAACCGUCC 1997  
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1994 AATAAATTTTCTATGCTGAGAAAGGAGATGCTGTGTGTGAGAAAGTCTATGTTG 2053  
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1998 AUGAAGGUUGCAUGGCGAGAGAGAGUUAACAUUAGUCUGUUCUUGGAGAUCAUCCG 2057  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2054 ACBAATCTTACTTAGAGCACCGAGGTGCGCTTCCACAGATTTTCTAAGGCTTGC 2113  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
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||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2114 GTGATAGTGTGATTACAAAGCAAAATGGCATCGGTGTTCTACTGCTCACTCAAAAGTT 2173  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2118 GCAGUUCGUUAUUCUAGNAGCAGAUAGCUGCAUUGUUAACACGGGUCUCCGAUUAAGUU 2177  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2174 CAACAATAGAAACTATGTGGACAGTTTGGCAGCTTCTGTTGTCGGCACTGTATCAAT 2233  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2178 CAGCAAAUGAAAAACUUUUAUCGAUAGCUGGUAUCAUUAUCUGUGCGGUGUCGAU 2237  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2234 CTATGCAAGTCACTAAAGGATGAAGTGGGTATCATTTCTGATTCAGGGAGAAAGTTGGT 2293  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2238 CUCGUAAGAUCCUAAAGAUACAGUUGCUUUAUUGAACCUUGAAACCCGCUCAAAAGUUUGA 2297  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2294 GTTTGGGATGTCACTTTGAAAAAGTGGCTCCTCAAACTTCGGCCAAAGGTCATTCATGG 2353  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||  
2298 GUCUUGAUGUUGCAUCUAGGAAGUGGUUAUCAAACCAACGGCCCAAGAGUCUAGCAUGG 2357  
||: || | : |||| | : |||| | : |||| | : |||| | : |||| | : |||| | : ||||







Db 1598 CTTGACATTAGAAAGAGATGGAAGAAACGGAAGTGATGATCAATGCACTTTCAGAGTTA 1757  
Qy 1760 TCTATCCTTAAAGGGTGTGATAAATTTTCGATATCGGAAGTTTCAAAGACATGTGCAAGGCT 1819  
Db 1758 TCGGTGTAAAGGAGTCTGACAAATTCGATGTTGATGTTTTTCCAGATGTGCCAATCT 1817  
Qy 1820 TTAGATGTTAGTCTGTGATGTGGCAGCAGAGTAATCGTTGAGTGGCGGAGAAATAGAAAGC 1879  
Db 1818 TTGGAAGTTGACCAATGACGCGCAGCGAAGGTTATAGTCGCGGTATGAGCAATGAGAGC 1877  
Qy 1880 GGTTTAACTCTTACTTTGATAAGCCAAACGAGGAGATGCGCTAAAGGCTCT-----T 1933  
Db 1878 GGTCTGACTCTCAATTTTGAAGACCTACTGAGCGAATGTGCGTACTGTTTTACAGAT 1937  
Qy 1934 AAAAGCAGCGGCTGTGAGCGCGTGTATGTCTTGAACCGCATCCGAGAGGTGAACGTA 1993  
Db 1938 CAAGAGAAGCTTCAGAAAGTGCTTTTGTAGTTACCTCAAGAGAAGTTGAAGAACCGTCC 1997  
Qy 1994 AATAAATTTTCTATGTGAGAAAGGAGATGTCCTGTGTGTGAGAAAGTCATGGTTTG 2053  
Db 1998 ATGAAGGGTTCGATGGCCAGAGGAGGTTACAAATTAGCTGTCTTGTGAGATCATCCG 2057  
Qy 2054 ACGAATGCTAACTTAGAGCACCAGAGTTGGAGTCCCTCAACGATTTCCATAAGGCTTGC 2113  
Db 2058 GAGTCGTCCTATTCTAAGAACGAGAGATAGAGTCTTTAGAGCAGTTTCATATGGCAAG 2117  
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Qy 2174 CAACAATGAAGAACTATGTGGAAGTTTGGCAGCTTGTGTCCGCACCTGTTATCAAT 2233  
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Qy 2294 GTTTGGGATGCACTTTGAAAAGTGGCTCCCTCAAACTCGCGGCAAGGTCAATTCATGG 2353  
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Dd				

## RESULT 6

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US-09-401-415-2
: Sequence 2, Application US/09401415
: Patent No. 6503732
: GENERAL INFORMATION:
: APPLICANT: THE SCRIPPS RESEARCH INSTITUTE
: TITLE OF INVENTION: METHOD FOR USING TOBACCO MOSAIC VIRUS TO
: PRODUCE PEPTIDES AND PROTEINS
:
: NUMBER OF SEQUENCES: 30
: CORRESPONDENCE ADDRESS:
: ADDRESSEE: Spensley Horn Jubas & Lubitz
: STREET: 1880 Century Park East, Suite 500
: CITY: Los Angeles
: STATE: California
: COUNTRY: USA
: ZIP: 90067
:
: COMPUTER READABLE FORM:
: MEDIUM TYPE: Floppy disk
: COMPUTER: IBM PC compatible
: OPERATING SYSTEM: PC-DOS/MS-DOS
: SOFTWARE: Patent In Release #1.0, Version #1.25
:
: CURRENT APPLICATION DATA:
: APPLICATION NUMBER: US/09/401,415
: FILING DATE: 21-Sep-1999
: CLASSIFICATION: <Unknown>
:
: PRIOR APPLICATION DATA:
: APPLICATION NUMBER: PCT/US95/01467
: FILING DATE: <Unknown>
: ATTORNEY/AGENT INFORMATION:
: NAME: Bostich, June M.
: REGISTRATION NUMBER: 31,238
: REFERENCE/DOCKET NUMBER: FD-4074
:
: TELECOMMUNICATION INFORMATION:
: TELEPHONE: (619) 455-5100
: TELEFAX: (619) 455-5110
:
: INFORMATION FOR SEQ ID NO: 2:
: SEQUENCE CHARACTERISTICS:
: LENGTH: 6395 base pairs
: TYPE: nucleic acid
: STRANDEDNESS: single
: TOPOLOGY: linear
: MOLECULE TYPE: DNA (genomic)
: IMMEDIATE SOURCE:
: CLONE: TWV
:
: FEATURE:
: NAME/KEY: CDS
: LOCATION: 1..6395
: SEQUENCE DESCRIPTION: SEQ ID NO: 2:
US-09-401-415-2

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; TOPOLOGY: unknown  
 ; MOLECULE TYPE: Genomic RNA  
 US-09-037-751-2

[illegible][illegible]

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Q	y	2174	CAACAAATGAAGACTATGTGGACAGTTTTGGCAGCTTCGTTGTTCGCCCACTGTATCAAAT	2233
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Q	y	2294	GTTTGGATGTCACTTTTGAAAAAGTGTGCTCCTCAACCTCGCGGCCAAAGTCAITCATGG	2353
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Q	y	2354	GGAGTTCTCTGGATTACAAAGGGGAAAAATGTTTACTGTGCACCTTCTATCTTATGAAGGAGAT	2413
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Q	y	2414	AGAATGGTGA CTGAGAGCGACTGGAGAGGGTGGCTGTATCATCTGATACAAATGGTATAT	2473
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Q	y	2474	TCTGATATTGCAAAAGCTCCHAAATCTCAGAAACCAATGAGAGACGGTGAACCCCACGAA	2533
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Q	y	2765	TTTATTGATGAGGGTTGATGCTGCACACGGTTGTGTAACTTCTCGTGTGCTTATCTCT	2824
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Q	y	2825	GGTTGCGACATCGATACATTTACGGAGATACACAGCAGATTCCTTTTCATTAAACAGAGTT	2884
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## RESULT 9

US-09-466-422-2

Sequence 2, Application US/09466422

Patent No. 6303779

GENERAL INFORMATION:

APPLICANT: GARGER, STEPHEN

HOLTZ, R. BARRY

MCCULLOCH, MICHAEL

TURPEN, THOMAS

TITLE OF INVENTION: A PROCESS FOR ISOLATING AND

PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES

FROM PLANT SOURCES

NUMBER OF SEQUENCES: 5



























Db 2298 GUCUUGGAUUGUUAUCUUAAGGAUGUUAUUAACCAACCGCCCAAGAGUUAUGCAUGG 2357  
Qy 2354 GGAGTTGTCCTGGATTACAAAGGGGAAATGTTTACTGCACTTCTTATCTTATGAAGAGAT 2413  
Db 2358 GGUUGUUGUUAACCAACCGGAGGAAGUUAUGUUGGCCUUAUGGAUAUUGAUGGCGAG 2417  
Qy 2414 AGAATGGTGACTGAGAGCGACTGGAGAGGGTGTGTATCATCTGATACAAATGGTATAT 2473  
Db 2418 GGUUGUGUGACAUGCAUGGAUGGAAGAGAGUAGUGUGAGCUCUGAGUCUGUGUUAU 2477  
Qy 2474 TCTGATATTGCAAGCTCCAAATCTGAGGAAACAAATGAGAGAGCGGTGAACCCACGAA 2533  
Db 2478 UCCGACUGGCCGAAACUCAGAGACUCUGCGCAGACUUGUUGGAAACCGAGAACCGAUGUC 2537  
Qy 2534 CCTACTGCAAGATGGTACTTGTGATGGGTGCTGTGTGTGAAAGTACAAAGAGAT 2593  
Db 2538 AGUAGCCGAAGGUUUCUUGUGACGAGUUCGGGCGUGUGGNAACCAAGAAAU 2597  
Qy 2594 TTTGAAAGATTTGATCTTGATGAGGATTTGATCTTTGGTTCTTGGAAACCAAGCTGCT 2653  
Db 2598 CUUCCAGGGUUAUUUUGAUGAUAUUAUUUAGUACUUGGGAAGCAAGCCGCGAA 2657  
Qy 2654 ATGATCAGAAAGGCTTAATCTGATCTGATGAAGAGCCACAAATGACACATGTGAGA 2713  
Db 2658 AUGAUCAGAAAGCGUGCGAAUUCUACAGGGAUUUUGGCGCAACGAAAGCAACGTUAAA 2717  
Qy 2714 ACGGTAGATTCACTTCTAATGATCCAAACCCGATCACA-----CAAGAGGCTT 2764  
Db 2718 ACCGUUGAUUUUUGAUGAUAUUUGGAAAGCACACGCGUGUCAGUUAAGAGGUUA 2777  
Qy 2765 TTTATTGATGAAGGGTTGATGTGCACACCGGTTGTGTTAACTTCTGTGCTTATCTCT 2824  
Db 2778 UUAUUGAUGAAGGUUGAUGUUAUUAUGUUGUUAUUUUCUUGUGCGAUGUCA 2837  
Qy 2825 GGTGCGACATCGCATACATTTACGAGATACACAGCAGATCTCTTTCATTAACAGATT 2884  
Db 2838 UUGUGCGAAUUGCAUUAUUAUUCGAGACACACAGCAUUAUCCAUCAUUAUAGUU 2897  
Qy 2885 CAGAATTTCCGTFATCCCAACATTTGAGAAGCTCAAGTGGATGAGTGAAGTGAAG 2944  
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Qy 2945 AGGACACACTGAGATGCCAGGTGATGTGAATTTTCTTCAATCGAAGTACGAAGGA 3004  
Db 2958 AGAAUAUCUUCUGUUGCCGCGAUGUCAACAUUUCUGAACAGGAGAUAGAGGCG 3017  
Qy 3005 GCGGTGACAAACATTTCAAATGTACAAAGATCGGTCTCATCTGAGATGATAGCGGTAG 3064  
Db 3018 UUUUGAUGAGCACUUCUGGUAUUAUUAUUGUUGUUGCGAGAGAGUUGCGCGGAGCC 3077  
Qy 3065 GGAGTACTAAACAGTGTTCCTAAACCACTAAAGGGAAATTTGTAATTTCTACTCAGGCT 3124  
Db 3078 GCGGUAUAUCCGGAUCUAAACCCUUGCAUGGCAUGAUCUGAUUUUUAACCAUUGC 3137  
Qy 3125 GATAAATTTGAGTTAGAGAGAGGCTATAGAATGTGAACACCCGTTTCATGAGATCCAA 3184  
Db 3138 GAUAAAGAAGCUCUGCUUAACAGAGGUAUUCAGAUUUAUUCAGUUGAUGAUGCAA 3197  
Qy 3185 GGAGAAACCTTTGAAGATGTGTGCTGGTCAGATTGACGGCAACTCCACTGATCTGATT 3244  
Db 3198 GCGAGACAUAUCUCAGUUGUUAUUAUUGAUGUUAUUAUUGAUGAUGAUGAUGAUG 3257  
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Db 3258 GCAGGAGACAGGCCCAUGUUGUUGCAUUGUUAAGGACACACUUGUGCGUCAAGUAC 3317  
Qy 3305 TACACGCTAGTGTAGATCTTTAGTACAGATAATTTAGTGTGATTGCTTCTTTAAGCTCC 3364  
Db 3318 UACACUUGUUAUGAUGUUGUUGUUGUUGUUAUUAUUAUUAUUAUUAUUAUUAUUAU 3377  
Qy 3365 TTTCTTTTGAAGATGTATGTTAGAGAGGAGTGTATGATAGCAATTTACAGATGGATGA 3424  
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Qy 3425 GTTTTCAAAGGTCATAATCTCTTTTGTGGCAACACCTAAATCAGGAGACTTTTCCAGATCA 3484  
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Qy 3545 GTTACATGAGGTTACGTGATAATAGTCTTATGTGAAGGATTTGTTCTTCTGATTTTCC 3604  
Db 3558 GUUACCAUGGUUGACUGACAUUUAUGAUGCAUUAUGAUGCAUUAUGAUGAUGU 3617  
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Qy 3725 TTCAACGACACAGACTCTGACGGGACGATTGACATTTGAGAGCACCGCATCTCTGTAGTA 3784  
Db 3738 UUUAAAGCACCGGAGUUGUGCAUUAUGAUAUUGAUAUUGAUAUUGCAUUAUGAUGUA 3797  
Qy 3785 GATAAGTTTTTTGATGATCTTTTATTAATAAAGAAATAACAATAAATAATTTGCTGA 3844  
Db 3798 GAUUAUUUUUUGAUAUUAUUGCUUAAAGAAAGAAACCAAAUAAAUAAUUGUUUCU 3857  
Qy 3845 GTGATGACGAAGGATTAATGATGATGTTGTTGAAACACAGAAAGAAGTACTATTGGAC 3904  
Db 3858 UUGUCAGUAGAGAGUCUCUAAUAGUUGUUAAGAAACAGGAAACAGGUAACAAUAGC 3917  
Qy 3905 GACTTGGCTTAACATACTTACAGATCTCGCGGCATCGATCAGTACAGACACATGATC 3964  
Db 3918 CAGCUGCGAGAUUUUGAUAUUGUUAUUGCCAGCAUGUAGUAGUAGUAGACACAUUU 3977  
Qy 3965 AAGGCTCAACCAAAACAGAAATTTGACCTTTCAATTCAGAATGAATACCTCTCTGCAA 4024  
Db 3978 AAAGCACAAACCCAAAGCAAAUUGGACUUAUCAAUCCAAACGAGUAGCCGCUUGCAG 4037  
Qy 4025 ACAATTTGCTACCATTTGACGAGATCAACGGTATTTTGGCCGGTTCT--CAGAGCTT 4081  
Db 4038 ACGAUUGUGUACCAUUAAGAAAGAAUUGCAUUAUUGGCGCGUUGUUAUGAGAGCU 4097  
Qy 4082 ACAAGTTGCTCTCGAGGCATTTGATTTCTAAGAAAGTTTCTTTTCTTACTAGGAAACT 4141  
Db 4098 ACUAGGCAUUAUCUGACAGUUGUUAUUGGACAGAUUUUUUUUUUUAACAAGAAAGCA 4157  
Qy 4142 CCAGAACAGATTTCAAGAAATTTTCTCGGATCTCGACTCGACGTTCTTATGGATGTGTTA 4201  
Db 4158 CCAGCGCAGAUUGAGGAUUUUCUUGGAGAUUCUGACAGUAGUUGCGGAGUAGUUCUUG 4217  
Qy 4202 GAACTGGATTTTCAAGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 4261  
Db 4218 GAGCUGGAUUAUCAAUAUACGACAAUUCAGAAUAGAAUUCACUGUGCAGUAGAAUAC 4277  
Qy 4262 GAAATATGGAAGATTTGGTCTCAATGATTTTGGCCGAGTGTGGAACCAAGGCGAC 4321  
Db 4278 GAGAUUGCGGAAGAUUGGUAUUGAAGACUUAUUGGGAAGAUUUUUGAAGCAUUGG 4337  
Qy 4322 AGGAAAAACATTTCAAGGATTTACATTTGCTGGAATCAAGACATGCTGTGGTATCAAAGG 4381  
Db 4338 AGAAGAACCAACCCUACAGGAUUAUACCGCAGGAUUAUAAACUUGCAUUGGUAUCAAAGA 4397  
Qy 4382 AAAAGCGGTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 4441  
Db 4398 AAGAGCGGGACGUCACGACGUUAUUGGAAACACUGUGAUAUUGGCAUUGGCUUGGCC 4457  
Qy 4442 TCAATGTTACCGATGGAAGAGTATGAAGGTTGTTTTTGTGGAGACGATTCGCTTTTG 4501  
Db 4458 UCGAUGCUUCCGAGGAAAAUUAUAAAGGAGCCUUUUGCGGUGACGAUAGUCUGCUG 4517





PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 09/037,751  
FILING DATE: <unknown>  
ATTORNEY/AGENT INFORMATION:  
NAME: Halluin, Albert P  
REGISTRATION NUMBER: 25,277  
REFERENCE/DOCKET NUMBER: 00801.0140.999  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 650-463-8109  
TELEFAX: 650-463-8400  
TELEX: <unknown>  
INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 6475 base pairs  
TYPE: nucleic acid  
STRANDEDNESS: single  
TOPOLOGY: unknown  
MOLECULE TYPE: Genomic RNA  
SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
US-09-466-422-4

Query Match	38.6%;	Score 2452.2;	DB 3;	Length 6475;
Best Local Similarity	44.8%;	Pred. NO. 0;		
Matches 2770;	Conservative 1147;	Mismatches 2208;	Indels 60;	Gaps 8;

[illegible]







1340 QY GAGTCTATAAGATCCCGGTGATATCAATGGTGTACTGCTAGTCTGAATGGATGTA 1399  
1338 Db GAAUCGUUCGAGGAGGUAUAUUAACGGUGAGCAGCGAGGUCCGAUUGGUG 1397  
1400 QY GATAAGCAATCTTCAACCCCTTGTCAATGACTTCTTCTTGCGACACTAAGTGGCTGG 1459  
1398 Db GACAAUUCUUUGUUAACAUCUUCGUCCAGACGUUUUACCUUGCAUACAAGCUUGCCGU 1457  
1460 QY CTTCAAGACGATATAGTAAATGGAAGTTCGGTCTGGTAAAGACCACTTCTGAAT 1519  
1458 Db CUAAAGGAUGACUACUGAUUAGCAUUAUAGUCUGGUUCGAAACGGUGGCCAGCAU 1517  
1520 QY ATTTGGGATAGGTGGCAAAATTTTGGAAACGTTTCCCACTATCAAGAGAGATG 1579  
1518 Db GUGUGGAUGAGAUUUCUGCGGUUGGGAACGCAUUCUCCUGCGUAAAGAGAGGCU 1577  
1580 QY GTGACGAGGAAATCTGATGTAAGTGAATGCTCTGAAGATCAAGATCCCAATCTG 1639  
1578 Db UUGAACAGGAAACUUAUCAGAGUGCGCGACGCAUUAAGAUACAGGGUGCCUGAUCU 1637  
1640 QY TATGTACATGGAAGACAGGTTCTGTAGCTGAATACCAAGTCTGAGGAGTTACCGAT 1699  
1638 Db UAUGUGACCUCCACACAGAUUAUGAGUGAGUACAAGGCCUCUGUGGACUUGCCUGG 1697  
1700 QY CTAGATATCAAGAAGGACTTGAAGAAGCTGAGCAAAATGTACGACGCGTTATCAGAA 1759  
1698 Db CUUGACAUUAGGAAGAGGAUGAAGAAACGGAAGUGAUGAACAUUGCAUUCACAGUUA 1757  
1760 QY TCTATCTTAAAGGGTGTGATTAATTTTGCATATCGGAAGATTCAAAGACATGTGAGGT 1819  
1758 Db UCGGUGUUAAGGAGGUCUGACAAAUUCGAUUGUAGUUAUUUCCAGAUUGGCCAAUCU 1817  
1820 QY TTAGATGTAGTCTGATGTGCGACACGAGTAATGTTGCGAGTGGCCGAGAAATAGAAG 1879  
1818 Db UUGGAAGUUGACCAUAUGACGGGCAAGAGGUUAUAGUCGCGUACAUGAGCAUAGAGCG 1877  
1880 QY GGTTTAACTCTTACTTTTATAGCCAAACCGAGGAGATGTGGCTAAGGCTCT-----T 1933  
1878 Db GGUUGACUCUCAUUAUGAACGACCUACUGAGGCGAUGUUGCGUACGUUUAACAGGAU 1937  
1934 QY AAAAGACGCGTCTGAGCGCGTGTATGTTTGAACCGACATCCGAGAGGTGAACGTA 1993  
1938 Db CAAGAGAAGGCUUACAGAAGGUCUUGGUAGUUAUCCUAAAGAGAUGUUAAGAAACCGUCC 1997  
1994 QY AATAAATTTCTATGCTGAGAAAGGAGATTGCTGTGTGTGCGAAGATCATGTTTG 2053  
1998 Db AUGAAGGUGUUGAUGCCAGAGAGAGUUAUUAUAGUCUGGUCUGGAGAUCAUCUG 2057  
2054 QY ACCAATGCTAACTTAGAGCACGAGAGTGGAGTCCCTCAACGATTTCCATAAGGCTTGC 2113  
2058 Db GAGUGCUUUAUUAAGAAACGAGGAGAUAGAGUCUUUAGAGCAGUUAUUAUGGCAAGC 2117  
2114 QY GTGGATAGTGTGATTAACAAGCAAAATGGCATCGGTTGTCTACATGGGCTCACTCAAAGTT 2173  
2118 Db GCAGAUUCGUUAUUCGUAAGCAGAGAGCUCUGAUUGUAGUACACGCGGUCCGAUUAAGUU 2177  
2174 QY CAACAAATGAAGAACTATGTGACAGTTTGGAGCTTCTGTTGTCGCGCACTGTATCAAT 2233  
2178 Db CAGCAAAUAGAAACUUUAUCGUAAGCCUGUAGCAUCAUUCUGCGCGGUGUGAAU 2237  
2234 QY CTATGCAAGTCACTAAGAGATGAAGTCCGGTATGATTTCTGATTCCAGGGAGAAAGTTGCT 2293  
2238 Db CUGGUCAGAUUCCUAAAGUAACGUGCUUUAUGACCUUUAAGAACCCGUCAAAAGUUGGA 2297  
2294 QY GTTTGGGATGTCACTTTGAAAAGTGGCTCTCAAAACCTGCGGCGCAAGGTCAATCATGG 2353  
2298 Db GUCUUGAUGUUGCAUCUAGGAAGUGUUAUUAUUAACCAACGCGCCAAAGAGUACUAG 2357  
2354 QY GAGATTGTCTGATTTACAGGGGAAATGTTTACTGCACTTCTATCTTATGAGAGAT 2413  
2358 Db GUGUUGUUGAAACCCACGCGAGGAAGUAUCAUGUGGCGCUUUAUGAAUAGAGCAG 2417  
2414 QY AGAATGGTGACTGAGAGCGACTGAGGAGGCTGGCTGTATCTCATCTGATCAATGGTATAT 2473

2418 Db GGUGTGGUGACAUGCGAUGAUUUGGAGAGAGUAGCUGUCAGCUCUGUUGUUGUUUAU 2477  
2474 QY TCTGATATTGCAAAAGCTCAAAATCTGAGGAAAAACAATGAGAGACGCTGAACCCCAAGAA 2533  
2478 Db UCCGACUUGCGGAACATCAGAAACUCUGCGCAGACUGUCUUGAAACGAGAACCGCAUGUC 2537  
2534 QY CTTACTGAAAGATGGTACTTGTGTGATGGGTGCTCTGTTGTGGAAGATTAAGAGAGAT 2593  
2538 Db AGUACGCAAGGUGUUGUUGAGCGAGUUCGCGGUGGGAACCAAGAAAUU 2597  
2594 QY TTTGAAAGATTTGATCTTGATGAGATTTGATCTTGTTTCTTGGAAAAACAAGCTGCTGCT 2653  
2598 Db CUUCCAGGGUUUAUUUUGAUGAUGAUUAUUUUAUAGUACCUUGGAAAGCAAGCCCGGAA 2657  
2654 QY ATGATCAGAAGAAGGGCTAATTTCTGACTGATAAGAGCCACAAATGGACAATGTGAGA 2713  
2658 Db AUGAUCAGAAGCGUGCGAAUUCUCAGGGAUUAUUGUGGCCACGAGGACAAACGUTAAA 2717  
2714 QY ACGGTAGATTCACTTTCTAATGATCCAAAAACCGCGATCACA-----CAAGAGGCTT 2764  
2718 Db ACCGUGAUUUCUUCUGAUGAAUUAUUGGAAAAAGCACACGUCUGACUACAAGAGGUUA 2777  
2765 QY TTTATTGATGAGGTTGATGCTGCACACCGGTTGTTGTTTAACTTCTCTGCTGCTTCTCT 2824  
2778 Db UUCAUGAAGAGGUGUUGCAUCUGUGUUGUUAUUUUCUGUGGCGGAGUUGCA 2837  
2825 QY GTTCCGCACATCGCATACATTTACGGAGATACACAGCAGATTTCCTTTTCAATTAACAGATT 2884  
2838 Db UUGCGGAAAUUGCAUUAUUGUUAUCGAGACACACAGACGAGUUCUACAUAAGAGUU 2897  
2885 QY CAGAAATTTCCGTAATCCCAACATTTTGAAGAGCTGCAAGTGGATGAAGTTGAGATGAGG 2944  
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2945 QY AGGACACACTGAGATGCCAGGTGATGTGAATTTTCTTACATCGAAGTACGAAGCA 3004  
2958 Db AGAACUACUCCUGUUGCCAGCCGAGUACACAUUAUCAGAAACAGGAGAUUAGAGGCG 3017  
3005 QY CGGTGACAAACCACTTCAACTGTACAAAGTCTCATCTGAGATGATAGCGGTAAAG 3064  
3018 Db UUUUGAUGACACUUCUUGGUUAAAGUCUGUUCGAGGAGAGUUGGCGCGGAGCC 3077  
3065 QY GGAGTACTAAAACAGTGTTCACAAACCACTTAAAGGGAATAATGTAACTTTCTCAGGCT 3124  
3078 Db GCGUGAUCAUUCGACUCAAACCCUUGCAUGCAAGAACUCCUGACUUAUUAACCAUUG 3137  
3125 QY GATAAATTTGATTAGAGAGAGGCTATAGATGTGAACACCGTTTCTATGAGATCCAA 3184  
3138 Db GAUAAAGAAGCUCUCUUAAGAGGGUUAUUCAGAUUGUACAUCUGUGAUGAAGUGCAA 3197  
3185 QY GGAGAAACCTTTTGAAGATGTGCTGCTGATGAGCGCAACTCCACTGACTCTGATTT 3244  
3198 Db GCGGAGACAUACUUGAUUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 3257  
3245 QY TCCAAAGTCTTCCCGCATGTTCTAGTCTGCTCTGACTAGACACACAAAGAGCTTCAAATAT 3304  
3258 Db GAGGAGACAGCCCAUUAUUGGUGCAUUAUUGCAAGGACACACUUGUUGCUCAAGUAC 3317  
3305 QY TACACGCTAGTGTAGATCTTTTAGTACAGATAATTTAGTGTATTTGTTCTTTTAAGCTCC 3364  
3318 Db UACACUGUUGUUAUGAUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 3377  
3365 QY TTTCTTTTGAATGTATATGTAAGCAGGTAGTATAGTAGCAATTTACAGATGGATGCA 3424  
3378 Db UAUUUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 3437  
3425 QY GTGTTCAAAGGTCAATAATCTTTTGTGGCAACACCTTAAATCAGGAGACTTTCCAGATCTA 3484  
3438 Db GUGUCAAAGGUUCCAAUUCUUUUGUUGCAGCGCCAAAGACUGGUGAUUAUUAUUAUUA 3497  
3485 QY CAGTTCTATTACGATGTATGCTCTCTGTTATAGTATCTATCTTAAAGATGATGCT 3544

Db 3498 CAGUUUAUUAAGUAGUGUCCAGGCAACAGCACCAGUAAGAAUAAUUUUGAUGCU 3557  
Qy 3545 GTTACCATGAGGTTACGTTGTAATAGTCTTAATGTGAAGGATGTGTTCTTGTATTTTTC 3604  
Db 3558 GUUACCAUGAGGUGACUGACAUUUAUGAAUGUCAAAGAUUGCAUUAUGGAUUGUCU 3617  
Qy 3605 AAAAGTATTCCGATGCCAAGGAGGTGAACCATGTCTAGAGCCAGTTTTCGTACCGCG 3664  
Db 3618 AAGUCUGUGUGCGCCUAGGAUAAUCAAACACCUAAUUAUUGAUGAACGACGCGC 3677  
Qy 3665 GCGAAACCGCAAGGCTCGAGGACTACTCGAAATCTGTGTTGCAATGATTAAAGAAAT 3724  
Db 3678 GCAGAAUUGCCACGCCAGACUGGACUAUUGGAAAUUUUAGGCGCAUGAAUAAAGAAC 3737  
Qy 3725 TTCAACGCACAGACCTCGACGGGACGATGTGACATTTGAGAGCACCGCATCTGTTGTAGTA 3784  
Db 3738 UUUAAACGCCAGUGUGUGGCAUCAUUAUGAAUUGAAAUUAUCUGCAUCUUUAGUUGUA 3797  
Qy 3785 GATTAAGTTTTTGTAGTATTTTATTAATAAAGAAATAACAAAAATATTGCTGGA 3844  
Db 3798 GAUAAAGUUUUGAUAUGTUAUUUGCUAAAGAAAAAGAAACCAAAUAAAUUUGUUCU 3857  
Qy 3845 GTGATGACGAGGATTCAAATGATCAGATGCTGTTGAAACAGGAAAGTACTATTGAC 3904  
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Qy 3905 GACTTGGCTAACTACAATTTTACAGATCTCGCGCCATCGATCAGTACAGTACAGCATATC 3964  
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Qy 3965 AAGCTCAACCAAAACAGAAATTTGACCTTTCAATTCAGAAATGAAATACCTGCTCGAA 4024  
Db 3978 AAAGCACAACCAAGCAAAAUUGGACACUUAUCCAAACGAGGUAUCCCGGCUUUGCAG 4037  
Qy 4025 ACAATGTCATACATTCGAGCAGATCAACGATATTTTGGCGGTTCT---CAGAGCTT 4081  
Db 4038 ACGAUUGUGUACCAUUAUUAAGUAUUAUUGCAUUAUUGGCCGUGUUUAGUGACUU 4097  
Qy 4082 ACAAGTTTGTCTCGAGGCAATTTGATTTCTAAGAAAGTTTCTTTTCTTACTAGGAAACT 4141  
Db 4098 ACUAGGCAAUUACUGGACAGUGUUGAUCGAGCAGAUUUUUGUUAUUAUUAUUAUUA 4157  
Qy 4142 CCAGAACAGATTCAGAAATTTTTCGGATCTCGATCTCGACGTCGATCTCTAGTGTGTA 4201  
Db 4158 CCAGCGCAGAUUUGAGGAUUUCUGGAGAUUCUCACAGUACUGGCGGAGUGAUGUCUG 4217  
Qy 4202 GAATCGGATTTCTAAGTATGATAAGTCAAGAACAGATTTTCAATGTGCTGTAGAGTAT 4261  
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Qy 4262 GAAATATGGAAGAGTTGGGTTCTCAATGAGTTTGTGGCCGAGTGTGGAAACAAAGGCAC 4321  
Db 4278 GAGAUUCGGGGAUUGGUUUUGAAGACUUCUUGGGAGAGUUAUUGGAAACAAAGGCAU 4337  
Qy 4322 AGGAAACAACTTTGAAGGATTAATCTGCGGAATCAAGACATGCTGTGTATCAAAAG 4381  
Db 4338 AGAAAGACCAACCCUACAGGAUUAUUAACCGCAGGUAUAAAAACUUGCAUCUGUAUUA 4397  
Qy 4382 AAAAGCGGTGATGTACTTCTCATCGGCAATCTGTTAATATAGCAGCTTGTCTCGGT 4441  
Db 4398 AAGACGGGGACGUCACGCUCAUUGGAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4457  
Qy 4442 TCAATGTTTACCGATGGAAAGGTCATAAAGAGTGTCTTTTGTGGAGACGATTCGTTTG 4501  
Db 4458 UCGAUGCUUCGAGUAGGAAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4517  
Qy 4502 TATTTTCAAAAGGTTGGATTTCCCTGACATTCAGTATGCTGCTATCTCATGTGGAAT 4561  
Db 4518 UACUUCCAAAGGUGUGAUGUUCGGAUUGUGCAACACUCCGCGAAUUCUUAUUGGAU 4577  
Qy 4562 TTTGAGCGCAAACTGTATAGAAAGAGGTACGGTTACTTTTGTGTTAGATCATCATACAC 4621  
Db 4578 UUUUAGCAAAACUGUUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4637

Qy 4622 CATGATAAGGAGCAATAGTGTATTATGATCTCTTTGAAGTTGATCTCTCAAACTTGGGGCA 4681  
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Qy 4682 AAACATATCAAGATTTATGATCACTTTAGAGAGTTAAGGGTGTCTTTTGTGCGGATGTGCT 4741  
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Db 4758 GUUUCGUUGAACAAUUGUGGUA---UUAACACACAGUUGACGACGCGUUAUGGAGGU 4814  
Qy 4802 CATAAAAACCCGATGATGTTTCGTTGCTTTTAAATTTGTGTTAAACAAATTTTGTGTGAT 4861  
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Qy 4862 AAATTTTATTTAGAACTTTGTTTTAAATGGCTGTGTAGTCTCAGAGATATCTGTCAAAAT 4921  
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Qy 4922 TAGCGAGTTTCATTTGATCTTTTCGAAAACAGGATGAGATACTTCCGGCATTTCACTAAGGT 4981  
Db 4935 CAAUGAGUUUUCGACUGACAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4994  
Qy 4982 CAAAGAGTTTGAATATCGATGTGGAACAAGATTATGGCTGTGTTAAAGAAATGATGCTTTTC 5041  
Db 4995 AAAGUGUUUUGUGUUCGAAAGTUGAUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5054  
Qy 5042 TGATGTAGATTTTAAAGTGTGTTAGTTAGTTTAAAGAAAGGTTATGCTGTAGCTGA 5101  
Db 5055 AGAGGUAACUUUUAAGGAGUUAAGCUUAUUAUGAUGGUAUCUCUUGUUUAGCCGG 5114  
Qy 5102 TTTGTTAGTCTCTGGGAGTGGAAATCTCCGGAATACTCCGCTGGTGGTGTGCTAGTGTG 5161  
Db 5115 UUGUGCUACCGCGCGAGUGGAAUUCUCCUGACAUUGCAGAGGAGUGUGAGCGUGUG 5174  
Qy 5162 TATTGTAGATAAGAGAAATGAAAGGAGTAAAGGAAGCAACGCTGGTGGTGTATCAAGCCCC 5221  
Db 5175 UCUGUGGACAAAAGGAUAAAGAGCCGACGAGGCCACUCUCGGAUCUUUAUUAUUAUUA 5234  
Qy 5222 TGCTTGCAAAAGAAATTTTCTTTTAACTAACTCCCTAAATTAATTAATTAATTAATTAAT 5281  
Db 5235 AGCUGCAAAAGAAAGAUUUUAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5294  
Qy 5282 TGCTGGAAGCACCCGTGGCAAGTGTAGTGAATATCAAAAGGAGTGGCTATGGAAGAGG 5341  
Db 5295 CGCGAUGAAAAACGUCUGGCAAGUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5354  
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Db 5355 UUUUCUGCCCUUUCUGGAGUUUGUGUGCGUGUUAUUAUUAUUAUUAUUAUUAUUAUUA 5414  
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RESULT 15
US-09-259-741-5
Sequence 5, Application US/09259741
Patent No. 603895
GENERAL INFORMATION:
APPLICANT: GARGER, STEPHEN
APPLICANT: HOLTZ, R. BARRY
APPLICANT: MCCULLOCH, MICHAEL
APPLICANT: TURPEN, THOMAS
TITLE OF INVENTION: A PROCESS FOR ISOLATING AND
TITLE OF INVENTION: PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES FROM PLANT
NUMBER OF SEQUENCES: 5
CORRESPONDENCE ADDRESS:
ADDRESSEE: Howrey & Simon
STREET: 1299 Pennsylvania Avenue N.W.
CITY: Washington
STATE: DC
COUNTRY: USA
ZIP: 20004
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSeq for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09259,741
FILING DATE: February 25, 1999
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 09/037,751
FILING DATE: March 10, 1998
ATTORNEY/AGENT INFORMATION:
NAME: Halluin, Albert P
REGISTRATION NUMBER: 25,277
REFERENCE/DOCKET NUMBER: 00801.0140.US01

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TELECOMMUNICATION INFORMATION:
TELEPHONE: 650-463-8100
TELEFAX: 650-463-8400
TELEX:
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 6446 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
TOPOLOGY: unknown
MOLECULE TYPE: Genomic RNA
US-09-259-741-5

Query Match 38.5%; Score 2449.8; DB 3; Length 6446;
Best Local Similarity 44.8%; Pred. No. 0;
Matches 2771; Conservative 1146; Mismatches 2212; Indels 60; Gaps 8;

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GenCore version 5.1.6  
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OM nucleic - nucleic search, using sw model

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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5	2455.4	38.6	6439	10	US-09-962-527-2
6	2455.4	38.6	6439	19	US-10-828-029-2
7	2452.2	38.6	6475	10	US-09-962-527-4

8	2452.2	38.6	6475	19	US-10-828-029-4	Sequence 4, Appli
9	2449.8	38.5	6446	10	US-09-962-527-5	Sequence 5, Appli
10	2449.8	38.5	6446	19	US-10-828-029-5	Sequence 5, Appli
11	2431.2	38.3	6425	10	US-09-962-527-3	Sequence 3, Appli
12	2431.2	38.3	6425	19	US-10-828-029-3	Sequence 3, Appli
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16	2291.4	36.1	11641	18	US-10-684-300-13	Sequence 13, Appli
17	2291.4	36.1	11641	18	US-10-684-349-13	Sequence 13, Appli
18	2291.4	36.1	11641	20	US-10-851-388-33	Sequence 33, Appli
19	2291.4	36.1	11641	22	US-10-984-389-33	Sequence 33, Appli
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21	2289.8	36.0	10600	19	US-10-280-913A-1	Sequence 1, Appli
22	2289.8	36.0	10600	19	US-10-684-134-1	Sequence 1, Appli
23	2289.8	36.0	10600	19	US-10-637-758-1	Sequence 1, Appli
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26	2289.8	36.0	10624	19	US-10-684-134-2	Sequence 2, Appli
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43	2286.6	36.0	10132	9	US-09-978-193-3	Sequence 3, Appli
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45	2285	36.0	7926	18	US-10-632-240-1	Sequence 1, Appli

ALIGNMENTS

RESULT 1

US-10-321-434-7  
; Sequence 7, Application US/10321434  
; Publication No. US20030135882A1  
; GENERAL INFORMATION:  
; APPLICANT: Metziaff, Michael  
; APPLICANT: Meulewater, Frank  
; APPLICANT: Gossel, Veronique  
; APPLICANT: Fach, Ina  
; TITLE OF INVENTION: Improved methods and means for delivering inhibitory RNA to plants  
; FILE REFERENCE: PROMOD  
; CURRENT APPLICATION NUMBER: US/10/321,434  
; CURRENT FILING DATE: 2002-12-18  
; NUMBER OF SEQ ID NOS: 18  
; SOFTWARE: PatentIn version 3.0  
; SEQ ID NO 7  
; LENGTH: 6355  
; TYPE: DNA  
; ORGANISM: Artificial  
; FEATURE:  
; OTHER INFORMATION: cdna sequence of the genome of TMV-U2  
US-10-321-434-7

Query Match 100.0%; Score 6355; DB 15; Length 6355;  
Best Local Similarity 100.0%; Pred. No. 0;  
Matches 6355; Conservative 0; Mismatches 0; Indels 0; Gaps 0;  
QY 1 GATGTTTAAATAGTTTTCGACAAACAATTAACAAACAAACATATTACAAACA 60  
|||||

Db 1 GATGTTTAAAGTAGTTTCGACAAACAACAATTAATAAACAACAAACATATTACAAACAACA 60  
Qy 61 AACAAACAATAGGCACACATACAAATCTATAATTTAGCAACGCCCTTCTTGAAACGGTGAG 120  
Db 61 AACAAACAATAGGCACACATACAAATCTATAATTTAGCAACGCCCTTCTTGAAACGGTGAG 120  
Qy 121 TGGTAAAAAACAATCTCGTTTAATGACCTTGCAGAAAGGGGCAATGACATACGGCCGTGGA 180  
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Qy 181 AGAATTTAAACCCCGACCGTAGACCAAGAGTCAACTTTTCCAAAACATATTACGGAAGA 240  
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Qy 241 GCAAAACGCTTCTAGTCTCCAAACGGGTACCCGGAGTTCAGATTACCTTTTATATACTCA 300  
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Db 301 AAATGCCGTCACACAGTTTGGCTGGAGTTTGAGAGCAATTAGAAATGGAAATCTGATGCT 360  
Qy 361 ACAAGTTCCCTATCGATCGCCGACATATGATATAGGTGGGAACCTTGCAGCACATTTGTT 420  
Db 361 ACAAGTTCCCTATCGATCGCCGACATATGATATAGGTGGGAACCTTGCAGCACATTTGTT 420  
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Db 421 CAAAGCGAGGATTAACGTCGATTCGTCGATGCCCAATCTGGACATACAGATATAATGAG 480  
Qy 481 GCACGAGGACAAAGGACTCAATGAGATGTATTTGTCAGATGTGCTCGTTCTAACAA 540  
Db 481 GCACGAGGACAAAGGACTCAATGAGATGTATTTGTCAGATGTGCTCGTTCTAACAA 540  
Qy 541 GGTAAATCTCAGTTTCAAAGGGAGGCTTTTAAACAGGTATGCAGAGCTCCCAACGAGT 600  
Db 541 GGTAAATCTCAGTTTCAAAGGGAGGCTTTTAAACAGGTATGCAGAGCTCCCAACGAGT 600  
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Db 601 CTGCTGCTCTAAAACTTTTCAAGGATGTCGAATACATCCCGACAGAAATAGTGGTAGAG 660  
Qy 661 ATAGCTGTGCTCTGCACAGTTTGTATGATATTTCTGTGTCATGAGTTTGAGCTGCGTT 720  
Db 661 ATAGCTGTGCTCTGCACAGTTTGTATGATATTTCTGTGTCATGAGTTTGAGCTGCGTT 720  
Qy 721 AATATCTAAGAAATATACATGATGTTATGTCAGCTTCCATTTTGGCAGAGCATTTACT 780  
Db 721 AATATCTAAGAAATATACATGATGTTATGTCAGCTTCCATTTTGGCAGAGCATTTACT 780  
Qy 781 AGACGACGAGGTTTACGCTTAATGAAATAGGCGCAACTTTTCAAAGAGAGGTGATGA 840  
Db 781 AGACGACGAGGTTTACGCTTAATGAAATAGGCGCAACTTTTCAAAGAGAGGTGATGA 840  
Qy 841 TGTCTTTCTTTTCTTGTGTCATGAAAGTACCTTTAAATTTATAGTCAATAACAAAATAT 900  
Db 841 TGTCTTTCTTTTCTTGTGTCATGAAAGTACCTTTAAATTTATAGTCAATAACAAAATAT 900  
Qy 901 CTTGCATTATGATGTTAAATCTTACTTCTGCTTCTAGTAGAATAGTTTACTTTAAGGA 960  
Db 901 CTTGCATTATGATGTTAAATCTTACTTCTGCTTCTAGTAGAATAGTTTACTTTAAGGA 960  
Qy 961 ATTTTATGCTACAGGGTAAATCTTGGTTTGTAAATTTTACAAAGTAGATACCTATAT 1020  
Db 961 ATTTTATGCTACAGGGTAAATCTTGGTTTGTAAATTTTACAAAGTAGATACCTATAT 1020  
Qy 1021 TCTGTACAGAGTGTAGACAGTAGGTGTAGTATGATCAGTCTCTATGAGGCGATGGA 1080  
Db 1021 TCTGTACAGAGTGTAGACAGTAGGTGTAGTATGATCAGTCTCTATGAGGCGATGGA 1080  
Qy 1081 AGAGCCCTTTGCTTACAGAAACAACTTGGCCATGTTTCAACACTGAAAGAGCAATCTTTAG 1140  
Db 1081 AGAGCCCTTTGCTTACAGAAACAACTTGGCCATGTTTCAACACTGAAAGAGCAATCTTTAG 1140

Qy 1141 AGACACGCGCTTCGGTTAACTTTTGGTTCCCTAAGATGAAGGACATGTGTGATAGTACCGCT 1200  
Db 1141 AGACACGCGCTTCGGTTAACTTTTGGTTCCCTAAGATGAAGGACATGTGTGATAGTACCGCT 1200  
Qy 1201 GTTTGAGGGTTCTATTACACAGCAAAAGATGACAAGGAGTGAGTCAATGTTAATCTGGA 1260  
Db 1201 GTTTGAGGGTTCTATTACACAGCAAAAGATGACAAGGAGTGAGTCAATGTTAATCTGGA 1260  
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Db 1321 GAAAGCTAATATCTTTTCGTGAGTCTATAAGATCCGCGTGATATAATCAATGGTGTACTGC 1380  
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Db 1381 TAGGTCTGAATGGATGTAGATAAGCAATTTCTCAACCCCTTGTCAATGACTTTCTTCTT 1440  
Qy 1441 GCAGACTAAGCTGGCTGCGCTTCAAGACGATATAGTAATGGGAAAGTTTCGGTCTTGGGA 1500  
Db 1441 GCAGACTAAGCTGGCTGCGCTTCAAGACGATATAGTAATGGGAAAGTTTCGGTCTTGGGA 1500  
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Db 1561 CACTATCAAAAGAGAGTTGGTGAGCAGGAAATTTCTGGATGTAAAGTGAAGATGCTCTGAA 1620  
Qy 1621 GATCAAGATCCCAGATCTGTATGTGCATGCAATGCAAGAGCAGAGTTCTAGCTGAATACCAA 1680  
Db 1621 GATCAAGATCCCAGATCTGTATGTGCATGCAATGCAAGAGCAGAGTTCTAGCTGAATACCAA 1680  
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Db 1741 CGACGCTTATCAGAAATTTCTATCCTTAAGGGTGTGATAATTTCCGATATCGCGAAGTT 1800  
Qy 1801 CAAAGACATGTGCAAGGCTTTAGATGTTAGTCTCTGATGTGCGCAGCAGAGTAAATCGTTGC 1860  
Db 1801 CAAAGACATGTGCAAGGCTTTAGATGTTAGTCTCTGATGTGCGCAGCAGAGTAAATCGTTGC 1860  
Qy 1861 AGTGGCCGAGATAGAAAGCGGTTTAACTCTTACTTTTGAAGCCAAACCGGAGGAGATGT 1920  
Db 1861 AGTGGCCGAGATAGAAAGCGGTTTAACTCTTACTTTTGAAGCCAAACCGGAGGAGATGT 1920  
Qy 1921 GGCTTAAGGCTTTAAAAGCAGCGCTGTAGGCGGTGTATGCTTCAACCGACATCCGA 1980  
Db 1921 GGCTTAAGGCTTTAAAAGCAGCGCTGTAGGCGGTGTATGCTTCAACCGACATCCGA 1980  
Qy 1981 AGAGGTGAACGTAATAAATTTTCTATTGCTGAGAAAGGGAGATTTGCTGTGTGCGAGA 2040  
Db 1981 AGAGGTGAACGTAATAAATTTTCTATTGCTGAGAAAGGGAGATTTGCTGTGTGCGAGA 2040  
Qy 2041 AAGTCATGGTTTGAAGATGCTTAATTTAGACCAAGGAGTTGGAGTCCCTCAACGATTT 2100  
Db 2041 AAGTCATGGTTTGAAGATGCTTAATTTAGACCAAGGAGTTGGAGTCCCTCAACGATTT 2100  
Qy 2101 CCATTAAGGCTTTGCGTGATGTGTGATTAACAAGCAATGGCATCGGTGTCTACACTGG 2160  
Db 2101 CCATTAAGGCTTTGCGTGATGTGTGATTAACAAGCAATGGCATCGGTGTCTACACTGG 2160  
Qy 2161 CTCATCAAGGTTCAACAAATGAAGAACTATGTGGAAGTTTGGCAGCTTCGTTGTCCGC 2220  
Db 2161 CTCATCAAGGTTCAACAAATGAAGAACTATGTGGAAGTTTGGCAGCTTCGTTGTCCGC 2220



Qy	2221	CAC	TG	TAT	CAAA	TCT	AT	GCA	AGT	CAC	TAA	AGG	AT	GAA	AGT	CGG	GTA	TGA	TCT	GAT	TCC	AG	2280
Db	2221	CAC	TG	TAT	CAAA	TCT	AT	GCA	AGT	CAC	TAA	AGG	AT	GAA	AGT	CGG	GTA	TGA	TCT	GAT	TCC	AG	2280
Qy	2281	GG	AA	AGT	TGG	TG	TG	TG	GG	AT	GTC	ACT	TG	AAA	AGT	TG	GCT	CCT	CAAA	CCT	CGG	CAA	2340
Db	2281	GG	AA	AGT	TGG	TG	TG	TG	GG	AT	GTC	ACT	TG	AAA	AGT	TG	GCT	CCT	CAAA	CCT	CGG	CAA	2340
Qy	2341	AGG	T	CA	TTC	AT	TG	GG	AG	TG	TCT	CG	GA	T	TCA	AGG	GGA	AA	AT	GTT	T	TAC	2400
Db	2341	AGG	T	CA	TTC	AT	TG	GG	AG	TG	TCT	CG	GA	T	TCA	AGG	GGA	AA	AT	GTT	T	TAC	2400
Qy	2401	TT	AT	GA	AG	GA	T	A	GA	T	GT	G	A	C	T	G	A	G	G	C	T	G	2460
Db	2401	TT	AT	GA	AG	GA	T	A	GA	T	GT	G	A	C	T	G	A	G	G	C	T	G	2460
Qy	2461	T	A	C	A	A	T	T	T	C	T	G	A	T	T	G	A	A	G	T	C	C	2520
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Qy	2521	T	G	A	A	C	C	C	C	G	A	A	C	T	A	C	T	T	G	A	T	G	2580
Db	2521	T	G	A	A	C	C	C	C	G	A	A	C	T	A	C	T	T	G	A	T	G	2580
Qy	2581	G	T	A	A	A	G	G	A	T	T	G	A	T	T	G	A	T	T	G	A	T	2640
Db	2581	G	T	A	A	A	G	G	A	T	T	G	A	T	T	G	A	T	T	G	A	T	2640
Qy	2641	A	C	A	G	C	T	G	C	T	A	T	A	T	T	A	T	T	C	A	T	C	2700
Db	2641	A	C	A	G	C	T	G	C	T	A	T	T	A	T	T	A	T	T	C	A	T	2700
Qy	2701	GG	A	A	T	G	A	A	C	G	G	T	A	G	A	T	T	C	A	T	T	C	2760
Db	2701	GG	A	A	T	G	A	A	C	G	G	T	A	G	A	T	T	C	A	T	T	C	2760
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Db	2821	C	T	C	G	G	T	T	G	C	A	T	T	T	A	C	G	G	A	T	A	C	2880
Qy	2881	A	G	T	T	C	A	A	T	T	T	T	T	T	G	A	A	C	T	G	A	2940	
Db	2881	A	G	T	T	C	A	A	T	T	T	T	T	T	G	A	A	C	T	G	A	2940	
Qy	2941	G	A	G	A	G	A	C	C	A	C	T	G	A	T	G	C	C	A	G	G	3000	
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Qy	3061	T	A	G	G	A	G	T	A	C	T	T	C	C	A	A	C	A	C	T	T	3120	
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[illegible]

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Db 4501 GTATTTTCCAAAGGGTTTGGATTTCCCTGACATTCAGTCATGTGCTAATCTCATGTGGAA 4560  
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Qy 4741 TTGTTTCCGTCGGAACCTGGTCTTAGGCTTTCCGAGCTGAACGAGCTATCAAGGAGGT 4800  
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Qy 5581 GTAAGAAGGGTTTTTAAAAATTTGAGGAATTCAGGATTAATGTAAGTATGACGAGTCTATCG 5640  
Db 5581 GTAAGAAGGGTTTTTAAAAATTTGAGGAATTCAGGATTAATGTAAGTATGACGAGTCTATCG 5640  
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Qy 5701 TTACTTATCTTCCGTTTACGAGATCTGTGCACTGATCAATCTGTGTCAAAATGCATT 5760  
Db 5701 TTACTTATCTTCCGTTTACGAGATCTGTGCACTGATCAATCTGTGTCAAAATGCATT 5760  
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Db 5761 GGGTAACCACTTTTCAACGCAACAAAGCTAGGACAAACAGTCCAAACAGCAATTTGCGGATGC 5820  
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Db 6001 TCAGAGGTTAGACGATCTACTGTAGCTATAAGGGCTTCAATCAATAATTTGGCTAATGA 6060  
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## RESULT 2

US-09-962-527-1

; Sequence 1, Application US/09962527

; Publication No. US20030049813A1

; GENERAL INFORMATION:

; APPLICANT: GARGER, STEPHEN

; HOLTZ, R. BARRY

; MCCULLOCH, MICHAEL

; TURPEN, THOMAS

; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
; FROM PLANT SOURCES

; NUMBER OF SEQUENCES: 5

; CORRESPONDENCE ADDRESS:

; ADDRESSEE: Howrey &amp; Simon













Db 3078 GCCGUGAUAUCCGAUCUCAAACCCUUGCAUGGCAAGAUCCUGAUUUUACCCAAUCG 3137  
Qy 3125 GATAAAATTTGATTAGAGAGAAAGGGCTATAAGAAATGTGAACACACGGTTTCATGAGATCCAA 3184  
Db 3138 GAUAAAGAAGCUCUGCUUUUCAAAGAGGUUUCAGAGAUUUCACACUGUGCAUGAAGUGCAA 3197  
Qy 3185 GGAGAAACCTTTGAAGATGTCTCGTGTGATGAGTTGACGGCACTCCACTGACTCTGATT 3244  
Db 3198 GGCAGACAUAUCUGAUUUUUUUAUAGUUAAGGUUAACCCUACACCAAGCUCUUAUAGU 3257  
Qy 3245 TCCAAGTCTTCCCGCATGTTCTAGTCGCTCTGACTAGACACACAAAAGAGCTTCAAAATAT 3304  
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Qy 3305 TACACCGPAGTTGATTAGTCCCTTTTAGTACAGATAATATTAGTGAATTTGTCTTTTAAAGTCC 3364  
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Qy 3545 GTTACCATGAGGTTACGTGATAATAGTCTTAATGTGAAGGATTGTGTTCTTGAATTTTCC 3604  
Db 3558 GUUACCAUGAGGUGAUCGACAUUUAUUGAAUGUCAAGAAUGCAUAUUGGAUUGUCU 3617  
Qy 3605 AAAAGTATTCGATGCCAAAGAGGTGAACCATCTCTAGAGCCAGTTTTCGCTACCGCG 3664  
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Qy 3665 CGGAACCGCCAAAGGGTGCAGGACTACTCGAAATCTGTGTCGTAATTAAGAAAT 3724  
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RESULT 4
US-10-338-592-2
; Sequence 2, Application US/10338592
; Publication No. US20030208792A1
; GENERAL INFORMATION:
; APPLICANT: Pitchen, John H.
; APPLICANT: Beachy, Roger N.
; TITLE OF INVENTION: METHOD FOR USING TOBACCO MOSAIC VIRUS TO
; FILE OF INVENTION: OVERPRODUCE PEPTIDES AND PROTEINS
; CURRENT APPLICATION NUMBER: US/10/338,592
; CURRENT FILING DATE: 2003-01-07
; PRIOR APPLICATION NUMBER: US 09/401,415
; PRIOR FILING DATE: 1999-09-21
; PRIOR APPLICATION NUMBER: US 08/687,559
; PRIOR FILING DATE: 1996-11-18
; PRIOR APPLICATION NUMBER: PCT/US95/01467
; PRIOR FILING DATE: 1995-02-03
; PRIOR APPLICATION NUMBER: US 08/192,477
; PRIOR FILING DATE: 1994-02-03
; NUMBER OF SEQ ID NOS: 32
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 6395
; TYPE: DNA
; ORGANISM: Tobacco mosaic virus
US-10-338-592-2
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Best Local Similarity 63.0%; Pred. No. 0;
Matches 4023; Conservative 0; Mismatches 2301; Indels 66; Gaps 11;
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QY 2825 GTTTCGACATCGCATACATTTACCGGAGATACACAGCAGATCTCTTTCAATTAACAGATT 2884  
Db 2838 TTGTGCGAAATTCATATGTTTACCGGAGACACACAGCAGATTCCTATACATCAATAGATT 2897  
QY 2885 CAGAAATTTCCCGTATCCCAAAACATTTTGAGAGCTGCAAGTGGATGAAGTTGAGATGAGG 2944  
Db 2898 TCAGAAATTCGCCGTATCCGCCCTTTTGCCTAAATTTGGAAGTTGACAGGTTGAGACACGC 2957  
QY 2945 AGGACACACTGAGATGCCCAGGTGATGTGAATTTTCTTCAATTCGAATGCAAGGA 3004  
Db 2958 AGAACTACTCTCCGTTGTCACGCCGATGTACACATTTATCTGAAACAGGAGATATGAGGCG 3017  
QY 3005 GCGGTGACAAACCATTTCAACTGTCAACGATCGGTCTCATCTGAGATGATAGGCGGTAAAG 3064  
Db 3018 TTTGTATGAGCACTTCTTCGGTTAAAGATCTGTTTCGACGAGATGGTTCGCGGAGCC 3077  
QY 3065 GGAGTACTAAACAGTGTTCCTAAACCACTTAAAGGGAAATTTGTAACCTTCACTCAGGCT 3124  
Db 3078 GCGGTGATCAATCCGATCTCAAAACCCCTTGCAATGGCAAGATCCTGACATTTTACCCCAATCG 3137  
QY 3125 GATAAATTTGAGTTAGAGAGAGGCTATAAGAAATGTGAACACACCGTTTCATGAGATCCAA 3184  
Db 3138 GATAAAGAACTCTGCTTTCAGAGGGTATTCAGATGTTCACTGTGATGATGAAGTGCA 3197  
QY 3185 GGAGAAACCTTTGAAGATGTGCTGCTGTCAGATGACGGCAACTCCACTGACTCTGATT 3244  
Db 3198 GCGGAGACATACTCTGATGTTTCACTAGTTAGGTTAAACCCCTACACCACTCTCCATCAIT 3257  
QY 3245 TCCAAGTCTTCCCGCATGTTCTAGTCGCTCTGACTAGACACACAAAGAGCTTCAAAATAT 3304  
Db 3258 CGAGGAGACAGGCCCATGTTTGTGTCGATTTGTCAAGGCAACCTGTTTCGCTCAAGTAC 3317  
QY 3305 TACACGTTAGTTAGATCCTTTTAGTACAGATAATTTAGTGAATTTGTCTTTTAAAGCTCC 3364  
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QY 3365 TTCTTTTGAAGATGATATGTTAGAGAGAGGTTAGAGCAGGTTAGATAGCAATTAAGATGCA 3424  
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QY 3425 GTGTTCAAAGGTCATTAATCTTTTGTGGCAACACCTTAATCAGGAGACTTTCCAGATCTA 3484  
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QY 3485 CAGTTCTATTACGATGATGCTCCCTCGTGTAAATGATGATGATGATGATGATGATGATGATG 3544  
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QY 3725 TTCAACGACACAGACCTGACGGGAGGATGACATTTGAGAGCACCGCATCTGTTGATGTA 3784  
Db 3738 TTTAAAGCAGCCGAGTTGCTGSCATCAITGATTAATTTGAATAATCTCACTTTAGTTGA 3797  
QY 3785 GATAAGTTTTCATAGCTATTTTATTAAGAAAGAAATACACAAATAATTTGCTGGA 3844  
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QY 3845 GTGATGACGAAGGATTCATGATGAGATGGTTTGGAAACACAGGAAGAGTACTATTGGAC 3904  
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Qy 2174 CAACAAATGAAGAATACTGTGGACAGTTTGGCAGCTTGGTGTGGCCACTGTATCAAT 2233  
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Qy 2234 CTATGCAAGTCACTAAAGGATGAAGTCGGGTATGATTTCTGATTCACAGGAGAAAGTTGGT 2293  
Db 2238 CUCGUCAGAUCUUAAGAUAUACGUCGUUAUAGACCUUGAACCUGAACAACGUAAGAUUGGA 2297  
Qy 2294 GTTTGGGATGCACTTTTGAAGAGTGGCTCCTCAAACTCGGGCCAAAGSTCAATTCATGG 2353  
Db 2298 GUCUUGAUGUUGCAUAGGAAUGGUUUAUCAAACCAACCGGCCAAGAGUCAUGCAUGG 2357  
Qy 2354 GGAGTTGCTCGGATTACAAAGGGGAAATGTTTACTGCATCTCTTATGAAGGAGAT 2413  
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Qy 2765 TTTATTGATGAAGGTTGATGCTGCACACCGGTTGTGTAACTTCTCTGGTCTTATCTCT 2824  
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Qy 3125 GATAAATTTGAGTTAGAGGAGAGGGCTATAAGAAATGTGAACACCGTTTCATGAGATCAA 3184  
Db 3138 GAUAAAGAGGACUUGCUUUUAAGAGGGUUAUUCAGAUUGUUCACUUGUCCAGUAGAGUCAA 3197

Qy 3185 GGAGAAACCTTTGAAGATGTGTGCTGCTCAGATTGACGCAACTCCACTGACTCTGATT 3244  
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Qy 3245 TCCAAGTCTTCCCGCATGTTCTAGTCGCTCTGACTAGACACACAAAAGAGCTTCAAAATAT 3304  
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Qy 3725 TTCAACGACACAGACCTGACGGGACGATTGACATTTGAGAGCACCAGATCTGTTGTAGTA 3784  
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Qy 3845 GTGATGACGAAGGATCAATGATGAGATGTTGAAACACAGAAAGAGTACTATTGGAC 3904  
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Qy 4025 ACAATTTCTACCAATTCGAAGCAGATCAACGGTATTTTGGCCGGTTTCT---CAGAGCTT 4081  
Db 4038 ACGAUGUGUACCAUUCAAAAAGAUCAUUGCAUUAUUGCGCCGCUUUGUUGAGUGCUU 4097  
Qy 4082 ACAAGTTGCTGCTCGAGGCATTTGATTTCTAAGAAATTTCTTTTCTTACTAGGAAACT 4141  
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Qy 4202 GAACCTGATTTCTTAAGTATGATAAGTCAAGAACGAGTTTTCATTTGCTGTGATGAT 4261  
Db 4218 GAGCUGGAUUAUUAUAAUACGAAAAUCAGAAUUGAAUUAUCCAGUUGGAGUAGAAUAC 4277













Db 1038 CAUAAAAGUGAUGAGACAGUUUAUACGCAUAGGAAGACGCAUGCAUUAACAA 1097  
Qy 1100 AAAACCTTGGCCATGTTCAAACCTGAAGAAGCAATCTTTTAGAGACACGGCTTCGGTTAAAC 1159  
Db 1098 AAGACUCUUGCAUUGUGCAACAGCAGAGAAUCCUCCUUGAGGAUUAUCAUCAUGCAU 1157  
Qy 1160 TTTTGGTTCCTAAGATCAAGACATGCTGATAGTACCGCTGTTTGAGGGTCTTATTACC 1219  
Db 1158 UACUGUUUCCAAAAGAGGGAUGUGUACUGAACCAUUAUUGCAUUAUUCUUGAG 1217  
Qy 1220 AGCAAAAAGATGACAAGAGTGAGTCAATGTTAATCGTGAATCTGTTTACACAGTGTCT 1279  
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Qy 1280 AATCATATCAGAACATATCAAGCCAAAGCTTAACTTACCAAGAACGTATTTCTTTCGTG 1339  
Db 1278 AACCACAUCUUGAAACAUACCGAGCAAGCUCUUAUCAUACGCAAAUUGUUUUGUUC 1337  
Qy 1340 GAGTCTATAAGATCCCGGTGATTAATCAATCGTGTACTGTAGTCTGAATGGATGTA 1399  
Db 1338 GAUUGCAUUCGAGGAGUAUAUUAACGGUGGACAGCGAGGUCGGAUUGGAGUG 1397  
Qy 1400 GATAAAGCAATCTTCAACCCCTGTGCAATGACTTCTTCTTTCGACACTAAAGCTGGCTGCG 1459  
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Qy 1460 CTTCAAGACGATATAGTAATGGGAAGTTTCGGTGTCTTGGATATAGACACCTTCTGAAC 1519  
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Qy 1580 GTGAGCAGCAAAATCTCGATGAAGTGAAGATGCTCTGAAGATCAAGATCCACAGATCTG 1639  
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Qy 1760 TCTATCTTAAAGGCTGTGAATTTTCGATATCGCAAGTTTCAAAAGACATGTCAAGGCT 1819  
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3858	UUGUUCAGUAGAGAGUCUCUCAAUAGAGUGUUUAGAAAAAGCAGGAACAAGUAGGC	3917
3905	GACTTGGCTAACTACAAATTTTACAGATCTGCGCGGCATCGATCAGTACACAGCACATGATC	3964
3918	CAGCUCGCGAGUUUUUGAUUUUUGUAGAUUUUGCCACGACAGUUGAUACAGACACAUGAUU	3977
3965	AAGCCTCAACCAAAAACAGAAATTTGGACCTTTCAATTTCCAGATCAATACCCCTGCTGCAAA	4024
3978	AAAGCACAACCCCAAGCAAAAUUUGGACACUUCAAUCCAAACGGAGUACCCGGGUUUGCAG	4037
4025	ACAATGTCTACCATTCGAAGCAGATCAACCGGTATTTTGGCCGGTTTCT---CAGAGCTT	4081
4038	ACGAUUGUUAACAUAUCAAATAAAGAUCAUGCAAUAUUUGCCGUUUUUUAGUGAGCUU	4097
4082	ACAAGTTGCTGCTCGAGGCATTTGATTTCTAAGAAATTTCTTTTCTTTTACTAGAAAACT	4144
4098	ACUAGGCAAUUACUGGACAGUGUGUAUUCGAGCAGAUUUUUUGUUUUUCACAAGAAAGACA	4157
4142	CGAAGACAGATTCAGAAATTTTCTCGGATCTCGACTCGCACGCTTCTATGGATGTGTTA	4201
4158	CCAGCGCAGAUUGAGAGAUUUUCUUGGAGAUUCGACAGUCAUGUGCGGAGUUGAUCUGG	4217
4202	GAACTGGATATTTCTAAGTATGATAAGTCACAGAAACGAGTTTCATTGTGCTGTAGAGTAT	4261
4218	GAGCUGGUAUAUCAAUAACGACAAUUCUCAGAUAAUCCACUGUGCAGUAGAUAC	4277
4262	GAAATATGGAAGAAAGTTGGTCTCAATGAGTTTTCGCGCAAGTGTTGGAAAAACAGGGCAC	4321
4278	GAGAUUCUGGCGAAGAUUGGUAUUGAAGACUUCUUGGGAGAAUUUUGGAAAAACAAGGGCAU	4337
4322	AGGAACAACATTTGAAGATTACATTTCTGCGAATCAAGACATGCTGTGGTATCAAGG	4381
4338	AGAAAGACCAACCCUACAGGAUAUAUCCGACAGGUUAAAAACUUGCAUCUGGUUAUCAAAGA	4397
4382	AAAAGCGGTGATGTGACTACTTTTCATCGGCAATACTGTTATAATAGCAGCTTGTCTGGT	4441
4398	AAGAGCGGGACGUCACGACGUCAUUGGAAAACACUGUGAUCAUGCUGCAUUGUUGGCC	4457
4442	TCAATGTTACCGATGGAAGAAAGGTCATAAAAGGTGCTTTTGTGGAGACGATTCGTTTTG	4501
4458	UCGAUGCUUCGGAUGGAGAAAAUAUACAAAGGAGGCCUUUUGCGUGACGGAUAGUCUGCUG	4517
4502	TATTTTCCAAGGGTTTGGATTTTCCCTGACATTCAGTCATGCTGCTATCTCATGTGGAAT	4561
4518	UACUUCCAAAGGGUUGUGAGUUCUUGGAGUGGCAACACCCCGCGAAUCUUUUGUGAUAU	4577
4562	TTTGAGCCAAACTGTATAGAAAGAGTACGGTTACTTTTGTGATAGATCATCATACAC	4621
4578	UUUGAAGCAAAACUUUUUAAAAACAGAUUGGAUAUUUUUGCGGAAGUAUUAUAUAU	4637
4622	CATGATAAGGAGCAATAGTGTATTATGATCTCTTTGAAGTTGATCTCCAAACTTTGGGCA	4681
4638	CACGACAGAGUACAUUGUGUAUUAACGUAUUGGAAUUAUUUUUGCGGAAGUAUUAUAUAU	4697
4682	AAACATATCAAGGATTTATGATTCATTTAGAGAGTTAAGGTGTCTTTGTGCGATGTTGCT	4741
4698	AAACACAUCAGGAUUGGGAACACUUGGAGGAGUUCACAGAGGUCUCUUUGUGAUGUUGCU	4757
4742	TGTTTCGCTCGGAACCTGGTCTTAGGCTTTCCGACGCTGAACCGAGCTATCAAGAGAGTT	4801
4758	GUUUCGUUGAACAAUUGUGGUA---UUAACACACAGUUGGACGACGCGUAUGGAGGUU	4814
4802	CATAAAAACCGGATTTGATGGTTTGGTTTCTTTAAATTTGTGTTTAAACAAATTTTGTGTGAT	4861
4815	CAUAAAGACCCGCCUCCAGGUCUGUUUUUUAUAAAAAGUCUGGUGAAGUAUUAUUGUCUUAU	4874
4862	AAATTTTATTTAGAACCTTTGTTTTTAAATGGCTGTTAGTCTCAGAGATCTGTCAAAT	4921
4875	AAAGUUCUUUUUAGAGUUUUUUAAGUUGGUCUAGUUGUUUUAAGAAAGAAUUGGAAUAU	4934









4398	DB	AAAGCGGGAGCGUCACGACGUAUUGGAAAAACACUGUGAUCAUUGCUGCAUGUUGGCC	4451
4442	QY	TCAATGTTACCGATGGAAAAAGGTCATAAAAGAGTGCTTTTGTGGAGACGATCCGTTTG	4501
4458	DB	UCGAUGCUCCGAUGGAGAAAAUAAUCAAAGGAGGCCUUUUGCGGUGAGCAUGUCUGCUG	4517
4502	QY	TATTTTCCAAAGGGTTGGATTTTCCCTGCACTTCAGTCATGTGCTAATCTCATGTGGAAT	4561
4518	DB	UACUUUCAAAGGUGUGAGUUCUCCGGAUGUGCAACACUCCCGCAUUAUUAUGUGGAU	4577
4562	QY	TTTGGGCCAAACTGTATACAAAGAGCTACGGTTACTTTTGTGTAGATACATCATACAC	4621
4578	DB	UUUGAAGCAAAACUUUUUUAAAAACAGUAUGGAUACUUUUUGCGGAAGUAUGUAUACAU	4637
4622	QY	CATGATAAGGGAGCAATAGTGTATTATGATCTCTTTGAAAGTTGATCTCCAACTTGGGGCA	4681
4638	DB	CACGACAGAGUGCAUUGUGUAUUCGAUCCUCAAAGUUGAUCUGAAACUUGUGUCU	4697
4682	QY	AAACATATCAAGGATATGATCACTTAGAAGAGGTTAAGGGTGCTTTGTGCGGATGTTGCT	4741
4698	DB	AAACACAUCAAAGUAUUGGAAACACUUGGAGGAGTUCAGAAGGUGCUCUUUGUGAUGUUCU	4757
4742	QY	TGTTGCTCGGAACCTGGTCTTAGTGCTTCCGACGCTGAACGACGCTATCAAGGAGTT	4801
4758	DB	GUUUGUGUAAACAAUUGUGCGUAUUAAC---ACACAGUGGACACGCGUAUGGGAGGU	4814
4802	QY	CATAAAACCCGATTGATGCTTCGTTTGCCTTTAAATTGCTTAAACAAATTTTGTGTGAT	4861
4815	DB	CAUAGACCCGCCUCCAGGUCUGUUUUUAUAAAGUCUGGUGAGUAUUAUUGUCUAU	4874
4862	QY	AAATTTTATTTAGAACTTTGTTTTTAAATGGCTGTTTAGTCTCAGAGATACTGTCAAAT	4921
4875	DB	AAAGUUCUUUAGAAGUUUUUAUAGAUGGCUCUAGUUGUUAAGAAAGAAAGUGAAUUA	4934
4922	QY	TAGCGAGTTCATTGATCTTTTCGAAAACAGGATGAGATATCTCCGCGATTCATGATRAAGT	4981
4935	DB	CAAUAGUUUAUCGACCTUGACAAAUAUUGGAGAGAUAUCUAACGCGCAUGUUUACCCUGU	4994
4982	QY	CAAGAGTGTTAGAATATCGACTGTGGACAGAGATTATGGCTGTTTAAAGATCATAGTCTTTC	5041
4995	DB	AAAGAGUUUAUGUUUCCAAAGUUUAUAAUAAUAAUGUUUUAUGAUAUGAUAUGUAUUGC	5054
5042	QY	TGATGTAGATTTACTTAAAGGTGTTAAGTTAGTTTAAAGAAAGGATGATGTGCTTAGCTGA	5101
5055	DB	AGAGGUAACCUUCUUAAGAGGUUAGCUUAUUGUAUGGUAUCGUGUUUAGCCGG	5114
5102	QY	TTTGTGTAGTCTCGGGAGTGGAAATCTCCCGGATACTCCGCTGGTGCTGCTAGTGTGTTG	5161
5115	DB	UUUGUGUCUACCGGGCGAGUGGAAACUUUGCUGACAAUUGCAGAGAGGUGUGAGCGUGUG	5174
5162	QY	TATTGTAGATAAGAGATGAAAAGGAGTAAAGGAAGCAACGCTGGTGCTGATCACGCCCC	5221
5175	DB	UCUGGUGGACAAAGGAUGGAAGAGCCGACGAGGCCACUCUCGGAUUCUUAUCACAGC	5234
5222	QY	TGCTTGCAAAAAAGAAATTTCTTTTAAAGCTAAATCCCTAAATTTTCAATAACATCCGAGGA	5281
5235	DB	AGCUGCAAGAAAGAAUUAUCAGUUAAGGUGUUCUCCAAUUAUUGCUUAUAACCCACGGA	5294
5282	QY	TGCTGAAGAACACCCGTGGCAAGTGTGTAGTGAATATCAAAAGGAGTGCTGCTAGGAAGAAG	5341
5295	DB	CGCGAUGAAAAACGUCUGGCAAGUUUAUUAUUAAGAAAUUGAAGAAUGUCAGCGCGG	5354
5342	QY	ATACTGTCTTTATCTTTGGAGTTCGTTTTCAATTTGTGTAGTACATAAAATATGTAAG	5401
5355	DB	UUUCUGCCGCUUCUCUGAGUUUGUGUGCGGUGUGUAUUUAUUAAGAAUAUAUAAA	5414
5402	QY	AAAAGGTTTGAGGGAACTGATTTTGTAGTGTGACAGACGGCTCGGCCAATTCGAACTCACTGA	5461
5415	DB	AUUAAGUUUUGAGAGAAGAUAUUAACAAACUGUGAGAGACGGAGGCCCAUGAAAUUAACAG	5474
5462	QY	AAAAGTTGTTGAGGAGTTTCGTGGATGAAGTACCAATCGCTGTGTGAACTCGAAAAGGTTCC	5521
5475	DB	AGAAGUCUUUAGAGUUUAUGGAAGAUUCCUUAUGCAUACAGGCUAGGCUAGCAAGUUUCG	5534

5522	Qy	GG-----AAAAA	CGAATCGGTAGGTATATATGTTTAAATAAT-----	5561
5535	Db	AUCUCGAACGGAAAAAGAGUGAUGUCGCAAGGGGAAAAUAGTUGAUAUGAUCGCGUC	5594	
5562	Qy	-----AAGAAAAATAATAACAGTCGTAGAGAGGGTTTTTAAATAATTGAGGAAATTTGAGGA	5614	
5595	Db	AGUCCGACACNAGNACUUAUAGAAAUUUUAAAGGAUUUUGGAGGAUAGUAGUUUAAAAAGAA	5654	
5615	Qy	TAATGTAAGTCGATGACGAGT-----CTATCGCGTCAATCGAGTACGTTTTTAATCAAT	5665	
5655	Db	UAAUUUAAUCGAUGAUAUUCGGAGGCUACUGUCGCGCAUUCGGAUUCGUUUUA-----AAU	5711	
5666	Qy	ATCGCTTATACAAATCAACTCTCCGAGCCAAATTTGTTTACTTATCTTCCTCGGTTTACGCAGAT	5725	
5712	Db	AUGUUUUUACGUAUACUACUCCAUUCUACUGUCGUUUUUUUGUACUACAGCGUGGGCCGAC	5771	
5726	Qy	CCTGTGCGAGCTGATCAATCTGTGTGACAAATGCAATGGGTAAACAGTTTCAAAACGCAACAA	5785	
5772	Db	CCAAUAGAGUUAUUAUUUUUGUAUUAUUGCCUUAGGAAAAUCAGUUUCAAACACAAACAA	5831	
5786	Qy	GCTAGGACAACAGTCCACNAGCAATTTGCGGATGCGCTGGGAAACCTGTGCGCTAGTATGACA	5845	
5832	Db	GCUCGAACUGUCGUUUAACAGACAUAUUCAGUGAGGUGUGGAAAAACUUCACCACCAAGUAACU	5891	
5846	Qy	GTGAGATTTTCCITGCATCGGATTTCTATGTGTATAGATATAATTTCCAGCGCTTGATCCGTTG	5905	
5892	Db	GUUAGGUUCCUGACAGUGACUUUAAGGUGUACAGGUACAAUUGCGGUUAUAGACCCGCUA	5951	
5906	Qy	ATCAGCGGCTTATTAATAGCTTTGTGATACAGAAAAATAGAAATAATAGAGGTTGATAATCAA	5965	
5952	Db	GUCAACAGCAGUUGUAGGUGAUCGACACUAGAAAAUAGAAUAAUAGAAGUUGAAAAUCAG	6011	
5966	Qy	CCGCAACCGAATACTACTGAAATCGTTTAAACGCGACTCAGAGGGTAGACGATGCTACTGTA	6025	
6012	Db	GGNAACCCACGACUGCCGHAACGUUAGAUGCUACUUGUAAGUAGACGACGACNACGGUG	6071	
6026	Qy	GCTATAAGGCTTCAATCAATAATTTGGCTTAATGAACTGGTTTCGTGGAACCTGGCATGTTTC	6085	
6072	Db	GCCAUAGGAGCGCGAUAUAUUAUUAUUAUUAUAGUAGAAUUGUACAGAGGAACCGGAUCUUU	6131	
6086	Qy	AATCAAGCAGGCTTTGAGACTGCTAGTGGACTGTGCTGGACCACAACTCCGGCTACTTAG	6145	
6132	Db	AUUGGAGCUCUUCUGAGAGCUCUUCUGGUUUGUUGAGAGCUCUGGGCCGCAUCAUAG	6191	
6146	Qy	CTATTGTTG	6154	
6192	Db	CAAUUAUAG	6200	

RESULT 10  
US-10-828-029-5  
: Sequence 5, Application US/10828029  
: Publication No. US20040171813A1  
: GENERAL INFORMATION:  
: APPLICANT: GARGER, STEPHEN  
: HOLTZ, R. BARRY  
: MCCULLOCH, MICHAEL  
: TURPEN, THOMAS  
: TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
: PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
: FROM PLANT SOURCES  
: NUMBER OF SEQUENCES: 5  
: CORRESPONDENCE ADDRESS:  
: ADDRESSEE: Howrey & Simon  
: STREET: 1299 Pennsylvania Avenue N.W.  
: CITY: Washington  
: STATE: DC  
: COUNTRY: USA  
: ZIP: 20004  
: COMPUTER READABLE FORM:  
: MEDIUM TYPE: Diskette  
: COMPUTER: IBM Compatible











Qy	1220	AGCAAAAGAGATGACAAGAGGTGAGGTCATTTGTTAAATCGTGTGACTTTCGTTTACACAGTGCCTT	1279
Db	1218	ACUAGUAAAGGAGCGCGCAAGGAAUCUUAAGUGUCUCAAAGAUUUUCGUGUUUACAGUGUCU	1277
Qy	1280	AATCATATCAGACATATCAAGCCAAAGCGTTAACTTTACCAGAACGTATTATCTTTCCGTG	1339
Db	1278	AACCAAUUCGAAACAUAACCAAGGCGAAAGCUUACAUCGAAAUUUUUUGUCUUUGUC	1337
Qy	1340	GAGTCTATAAGATCCCGCGTGATAATCAATGGTGTGTACTCTAGGTCGTGAATGGGATGTA	1399
Db	1338	GAUUGAUUCGAGGAGGUAUCAUUAACGGUGUGACGACGAGGUCGCGAAUUGGGAUGUG	1397
Qy	1400	GATPAAAGCAATCTTTCAACCCCTTGTCAATGACTTTCTTTCTTGACACTAAGCTGGCTCGG	1459
Db	1398	GACAAAUUUUUUACAACUUCUUGCCAUCAUCGUCGUAUUAUCUGCAUAUAAGCUUUGCGU	1457
Qy	1460	CTTCAAGACATATAGTAATGGGANAAGTTTCGGTGTCTTGGATPAGACCACCTTCTGAACTT	1519
Db	1458	CUAAAGGAUGACUUAUGAUUAGCAAUUUAUGUCUGGUUCGAAACCGUGUGCCAGCAU	1517
Qy	1520	ATTTTGGGATCAGCTGGGCAAAATTTTGTGAAAAGTTTTCGCCCACTACTCAAAGAGAGATTG	1579
Db	1518	GUGUGGAGUAGAUUUCUGCGGCUUUGGAAACGCAUUAUCCUCCGUGAAGAGAGGCGUC	1577
Qy	1580	GTGAGCAGGAAAAATTTCTGATGTGAATGAGAAATGCTCTGAAGATCAAGATCCCAAGATCTG	1639
Db	1578	UUGAACAGGAAAACUUAUCAGAGUGGCGAGGCGACGCAUUAAGAGUACAAGGUGGCUCAUCUA	1637
Qy	1640	TATGTCATCTGGAAGACAGCTTCGTAGCTGAATACACAAAGCTCTGAGGAGTTACCGCAT	1699
Db	1638	UAUGUGACCUUCCACGACAGAUUAGUCUGAGUACAAGGCCUCUGUGGACAUCCGCGG	1697
Qy	1700	CTAGATATCAAGAAGGACTTTAGAAAGAGCTTGAGCAAAATGTACGACGCGTTTATCAGAATTA	1759
Db	1698	CUUGACAUUAGGAAGAAGUAGGAAGAAACCGAAGUGAUGUAACUAGCAUUUCAGAGUUA	1757
Qy	1760	TCTATCCTTTAAGGGTGTGTAAATTTTCGATATCCGGAAGTTTCAAGACATGTGCCAAGGCT	1819
Db	1758	UCGGUGUUAAGGGAGUCUGACAAAUUCGAUUGUUGAUUUUUUCCAGAUUGGCCAAUCU	1817
Qy	1820	TTAGATGTTTGTCTGTATGTGGCAGCAGAGTAAATCGTTTCAGTGGGCCGAGATAGAGC	1879
Db	1818	UUGGAAGUUGACCCAAUAGCGCGCAGCGAAGGUUAUAGUCGCGUCAUGACCAUAGAGAGC	1877
Qy	1880	GGTTTAAGTCTTACTTTTGTGATAAGCCAAACGAGAGAGATGTGGCTAAGGCTCT-----T	1933
Db	1878	GGUCUGACUCUCAUUUUUAACGACCUCAUUGAGCGGAUUGUGCGCUAGCUUUAACAGAU	1937
Qy	1934	AAAAGCAGCGCGTCTGAGGCGGTGGTATGTCTTTGAACCGACATCCGGAAGAGGTGAACGTA	1993
Db	1938	CAAGAGAAGGCUUCAGAGAAGGUGCUUUGUAGUUAUACCUCAAGAGAAGUUGAAGAACCGUCC	1997
Qy	1994	AATPAAATTTTCTATTTGTGAGAAAGGAGATATGGCTGTGTGTGCGAGAAAGTCAATGTTTG	2053
Db	1998	AUGAAGGUGUUGCAUUGGCCAGAGGAGAGUUAACAUAUAGCUGGUCUUGCUGAGAUCAUCG	2057
Qy	2054	ACGAATCTAAGTTTAGAGCACCGAGAGTTGGAGTCCCTCAACGATTTCCATAAGGCTTGC	2113
Db	2058	GAGUCGCUUUAUUCUUAAGAACGAGAGAUAGAGUUAUAGAGCAUUAUUAUGGCCAACG	2117
Qy	2114	GTGGATAGTGTGATTACAAAGCAAAATGGCATCGGTGTCTACACTGGCTCACTCAAAGTT	2173
Db	2118	GCAGAUUGUUAUUCUUAAGCAGAUAGUCUAGUUGUUAUAGUACAGGCGCGAUUAAGUU	2177
Qy	2174	CAACAAATGAAGAACTATGTGGAACAGTTTGGCAGCTTCGTTGTCCGCCACTGTATCAAT	2233
Db	2178	CAGCAAAUUGAAAAACUUUAUCGAUAGCUCUGUAGCAUCAUUCUGCUGCGGUGUGCAAU	2237
Qy	2234	CTATGCAAGTCACTAAAGGATGAAGTGGGTATGATTTCTGATTTCCAGGGAGAAAGTTGGT	2293
Db	2238	CUCGUCACGAUCCUCAAGAUAUACUGUCUUAUUGACCUUGAAACCCGUCAAUAGUUGGA	2297
Qy	2294	GTTTGGGATGTCACTTTTGAAAAAGTGGCTCTCTCAAAAGCTCGCGGCCAAAGGTCAATTCATGG	2353

[illegible]

Db 3378 UACUUGUUAUUAUAGGUCAUGCAGGAAACAUAUAGCAUUAUACAGAUUGACUUG 3437  
Qy 3425 GTGTTCAAAGGTCAATATCTTTTGGCGCAACACCTAAATCAGGAGACTTTCCAGATCTA 3484  
Db 3438 GUGUUCAAAGGUCCAAUUCUUUUGUUGCAGCGCCAAAGACUGGUGAUUUAUUGAUUG 3497  
Qy 3485 CAGTTCTTATACGATGTATGCTCCCTCGTAAATAGTACTATCTTAACAAGATATGATGCT 3544  
Db 3498 CAGUUUACUAGUAAUAGUGUCUCCAGCGCAACAGCACCAUGAUAUUUUUUGUUGCU 3557  
Qy 3545 GTTACCATGAGGTACGCTGATAATAGTCTTAATGTGAAGGATGTGTTCTTGTATTTTCC 3604  
Db 3558 GUUACCAUGAGGUUGACUGACAUUUAUGAUAUUGCAAGUUAUUGCAUUAUUGAUUGUCU 3617  
Qy 3605 AAAAGTATCCGATCCGACAAAGGAGGTGAACCAATGTCTAGAGCCAGTTTTCGCTACCGCG 3664  
Db 3618 AAGUCUGUGCGGCCUUAAGGAUCAAUAUCAAACCAUAUAUACCUAUGGUACGAAACGGCG 3677  
Qy 3665 GCGGAACCGCAAGGCTGCAGGACTACTCGAAATCTGGTTCGAATGATTAAGAAT 3724  
Db 3678 GCAGAAUUGCCACCCAGACUGGACUAUUGGAAAUUUUUGGCGCAUGAUUAAAGGAAC 3737  
Qy 3725 TTCAACGACACAGACTTGAAGGACGATTCAGATTCAGAGCACCGCATCTGTTGTAGTA 3784  
Db 3738 UUUAAACGACCCGAGUUGUCUGCAUUAUUGAUUAUUGAUAUUGCAUUAUUGAUUGUA 3797  
Qy 3785 GATAAGTTTTTGTAGTACTTTTTATTAAAGAAAGAAATACACAAAAATATTGTGGA 3844  
Db 3798 GAUAAAGUUUUGAUUAUUGUCUUAAGAAAGAAAGAAAGAAAGAAAGAAAGAAAGAAAG 3857  
Qy 3845 GTGATGACGAAGGATTCATGATGATGATGTTGGAACAGGAAGAGTACTATTGGAC 3904  
Db 3858 UUGUUCAGUAGAGAGUCUCUCAAUAGUUGUUAUAGAAAGCAGGAAACAGGUAACAAUAGGC 3917  
Qy 3905 GACTTGGCTACTACAATTTTACAGATCTGCGCGCCATCGATCAGTACAGACATGATC 3964  
Db 3918 CAGCUCGCAUUAUUGAUUUUGAUUUUGCCAGCAGAGUUAUUGCAUUAUUGCAUUAUUG 3977  
Qy 3965 AAGGCTCAACCAAGAAATTTGACCTTTTCAATTCAGAAATGAATACCTGCTCTCAA 4024  
Db 3978 AAAGCAACAACCAAGCAAAAUUGGACACUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4037  
Qy 4025 ACAATGCTACCATTCGAAGCAGATCAACGGTATTTTGGCCGGTTTCTCA--GAGCTT 4081  
Db 4038 ACGAUUGUGUACCAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4097  
Qy 4082 ACAAAGTTGCTGCTCGAGGCAATTTGATTTCAAGAAATTTCTTTTCTTACTAGAAACT 4141  
Db 4098 ACUAGGCNAUUAUUGGACAGUUGAUUUGGACAGAUUUUUUUUUUUAUUAUUAUUAUUA 4157  
Qy 4142 CCAGAACAGATTCAGAAATTTTTCGATCTCGACTCGCAGCTTCTATGATGATGTTA 4201  
Db 4158 CCAGCGCAGAUUGAGGAUUAUUCGGAGAUUCUACAGACUAGUUGCGGAGUUGUCUG 4217  
Qy 4202 GAATCGATATTTCTAAGTATGATAGTCAAGAACAGATTTTCAATGCTGCTAGATAT 4261  
Db 4218 GAGCUGGAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4277  
Qy 4262 GAAATATGAAAGATTTGGGTCTCAATCAGTATTTTGGCGAAGTGTGAAACAAAGGCGAC 4321  
Db 4278 GAGAUUCGGCGAUAUUGGUUUUUGAAGACUUAUUGGAGAAUUGGAAACAAAGGCGAU 4337  
Qy 4322 AGGAAAAACAATTTGAAGGATTAATTCGCTGGAATCAAGACATCTGCTGTGATCAAGG 4381  
Db 4338 AGAAAGACCAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4397  
Qy 4382 AAAAGCGGTGATGCTACTTTTCAATCGGCAATCTGTTAATAGCAGCTTCTGCTGGT 4441  
Db 4398 AAGAGCGGGACGUCACGACUUAUUGGAAACACUUGUUAUUAUUGCGUAGUUGUUGGCC 4457  
Qy 4442 TCAATGTTTACCGATGGAAGGTCATAAAGGTCCTTTTGTGGAGACGATTCGCTTTTG 4501  
Db 4458 UCGAUGCUUCGAGGAGAAAUUAUUAAGGAGCCUUUUGCGGAGCAUAGUCUGUCUG 4517

Qy 4502 TATTTTCCAAAGGTTTGGATTTCTCCTGACATTCAGTCACTGCTATCTCATGTGGAAT 4561  
Db 4518 UACUUUCAAAGGUGUGAGUUUCGGAUUGUCAACAACUCCGCGAAUUAUUGUGGAU 4577  
Qy 4562 TTTGAGGCCAAATCTGTATAGAAAGAGTACGGTTACTTTTGTGTAGATACATACAC 4621  
Db 4578 UUGAAGCAAAACUGUUUAAAAACAGUAUGGAUAUUUUUGCGAGAAUUAUUAUUAU 4637  
Qy 4622 CATGATAAGGAGCAATAGTGTATTATGATCTTTTGAAGTTGATCTCAAACTTTGGGCA 4681  
Db 4638 CACGACAGAGAGUAGUUGUAUUAAGAUCCUAAAGUUAUCUCGAAACUUGUGUCU 4697  
Qy 4682 AAACATATCAAGGATTTATGATCACTTAGAAGATTAAGGTCCTTTTGTGGATGTTGCT 4741  
Db 4698 AAACAUAUAGAUUUGGGAACACUUGGAGGAGUUCAGAAAGGUCUUAUUGAUGUUGUCU 4757  
Qy 4742 TGTTCGCTCGAAACTGGTCTTAGGCTTTCCGAGCTGAACGAGCTATCAAGGAGGTT 4801  
Db 4758 GUUUCGUU---GAAACAUAUUGUGGUUAUUAACACAGUUGGACGAGCGUUAUGGAGGU 4814  
Qy 4802 CATAAAACCCGATTTGATGTTTCTGTTTGTCTTTTAAATTTGTCTTAAACAAATTTTGTGTAT 4861  
Db 4815 CAUAGAGCCGCCUCCAGGUCUGUUUAUUAUAAAGUCUGGUGAAGUAUUAUUGUCU 4874  
Qy 4862 AAATTTTATTAGACTTTTGTTTTAAATGCTGTTAGTCTCAGAGATCTGTCAAAAT 4921  
Db 4875 AAAGUUUUUAAGAAUUGUUUAUAGUUGGUCUUAUUGUUUAAGAAAGUAAUUA 4934  
Qy 4922 TAGCGAGTTCAATGATCTTTTCGAAACAGAGATGAGATCTTTCCGCAATTCATGACTAAGGT 4981  
Db 4935 CAAUGAGUUUAUCGACUGCAAAAUAUGGAGAAUUAUUAUUAUUAUUAUUAUUAUUAU 4994  
Qy 4982 CAAGAGTTTAGAATATCGACTGTGGAAGAGATTTATGGCTGTTTAAAGAAATGATAGTCTTT 5041  
Db 4995 AAAGAGUUUAUUGUUCGAAAGUUGAUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5054  
Qy 5042 TGATGTAGATTTACTTAAGGTGTTAAGTTAGTTAGTTAAGAAAGGTTATGTGCTTAGCTGA 5101  
Db 5055 AGAGUGAAGACUUAUUAAGGAGUUAAGCUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5114  
Qy 5102 TTTGGTAGTCTCTGGGAGTGAATCTCCGAGTAACCTGCGGTGCTGCTGCTGCTGCTGCTG 5161  
Db 5115 UUGUUCGUCACGCGCGAGUGGAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5174  
Qy 5162 TATTGTAGATTAAGAGAAATGAAAGGAGTAAAGGAAGCAACGCTGGGTGCTGATACGCCCC 5221  
Db 5175 UCUGUGGACAAAAGGAUGAAAGAGCGGAGCGGCGACUCUCGGAUUAUUAUUAUUAUUA 5234  
Qy 5222 TGCTTGCAAAAGAAATTTTCTTTTAACTTAATCCCTAAATTTTCAATAACATCCGAGGA 5281  
Db 5235 AGCUGCAAGAAAGAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 5294  
Qy 5282 TGCTGAGAAGCACCGCTGGCAAGTGTAGTGAATATCAAAAGGAGTGTGCTATGGAAGAGG 5341  
Db 5295 CGCAUGAAGAAACUUCUGGCAAGUUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5354  
Qy 5342 ATACTGCTTTTATCTTTTGGAGTTGCTTCAATTTGTTGTAGTACATATAAATAATGTAAG 5401  
Db 5355 UUUUCUGCCGUUUCUGGAGUUUGUGUGGUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5414  
Qy 5402 AAAGGTTTGAGGAGAGTATTTTGTAGTGTGACAGCGGCTCGCAATTCGAATCACTCACTGA 5461  
Db 5415 AUUAGGUUUGAGAGAGAAAGAUUAACAAACGUGAGAGACGGAGGCCCAUGGACUUUAACA 5474  
Qy 5462 AAAGGTTTGTGAGGAGTTCTGATGAAGTAAACCAATCGCTGTGTAACCTCGAAAAAGTTTC- 5520  
Db 5475 AGAGUUGUUAUGUUAUGAUGGAGAGUUGUCCUUAUUGUCCAUCAUGAGGCUUGCAAGUUUCG 5534  
Qy 5521 -----CGGAAACAAAAAGAAATTTGTTAGGTAATTAATTTTAAT----- 5561  
Db 5535 AUCUCGAAACCGGAAAAAGAGUGAUGUCCGCAAGGGAAGAAUUAUUAUUAUUAUUAUUA 5594

5562 -----AAGAAAAATAAATACAGTGGTAAAGGGTTTTAAAAATTGAGAAATTGAGGA 5614  
 5595 AGUGCGGACAAAGACUAUAGAAAUUGUUAAGGAUUGGAGGAUUGUUAUAAAAAGAA 5654  
 5615 TAAATGAGTATGATGAGGAGT-----CTATCGGTTCATCGAGTACGTTTTATCAAT 5665  
 5655 UAAUUAUUGGAUGAUGAUUCGAGGCUACUGUGCCGAAUUGGAUUGCUUUUA---AAU 5711  
 5666 ATGCGTTATACAAATCAACTCTCCGAGCCAAATTTGTTTACTTATCTTCCGTTTACGCAGAT 5725  
 5712 AUGUCUUAAGUAUACUACUACUACUAGUGUGUUGUUGUUGUUGUUGUUGUUGUUGUUG 5771  
 5726 CTTGTCGACGCTGATCAATCTGTGTACAAATGCAATGGGTAAACAGTTTCAACGCAACAA 5785  
 5772 CCAUAGAGUAAUUAUUAUUGUACUAAUUGCUUAGGAAUACUGUUGUUGUUGUUGUUGUUG 5831  
 5786 GCTAGGACAAAGTCAACAGCAATTTGCGGATGCTGGAACCTGTGCTAGTATGACA 5845  
 5832 GCUCGAAACUGUGUUCAAAGACAAUUCAGGAGGUGUGAACCUCACCAAGUUAACU 5891  
 5846 GTGAGATTTCTGCTCGCATCGAT-----TTCTATGTG 5875  
 5892 GUUAGUUCUCCUGACGGCAUUGGUGGUGGUGGUGGUGGUGGUGGUGGUGGUGGUGGUGG 5951  
 5876 TATAGATATAATTCGACGCTTGATCGGTTGATCAGCGCGTTTAAATAGCTTTGATACT 5935  
 5952 UACAGUACAUUGCGUUAUUGAAGCCGUGUACAGCAGCAGCAGCAGCAGCAGCAGCAGCAG 6011  
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 5996 GCGACTCAGAGGTGACCATGCTACTGCTAGCTATAAGGCTTCAATCAATAATTTGGCT 6055  
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 6056 AATGAATCTGTTGCTGGAATGCGATGTTCAATCAAGCAGGCTTTGAGACTGCTAGTGA 6115  
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 6116 CTTGCTGACCAACAACCTCGGCTACTTACTGATTTGTTGAGATTTCTTAAATTAAGT 6175  
 6192 UUGGUUGGACCUUGGUGGUGGACU-----UGAGGUAGUAGUAGUAGUAGUAGUAGUAG 6247  
 6176 CGCTGAAGACTTAAATTCAGGCTGCTGATACCAAAATCAGCAGGTTGTTGTTGCTCCAC 6235  
 6248 GGAUUGUGUGGUAUACACACU-----CGUGGUGGUGGUGGUGGUGGUGGUGGUGGUGG 6306  
 6236 TTAATATAACGATTTGCTATATCTGATCCAAAGTTAAACCATGTTGATGTTGTTGTTG 6295  
 6307 UUAUUAUGAAGGUGUGU-GUUGUAGUUGGUGGUGGUGGUGGUGGUGGUGGUGGUGGUG 6365  
 6296 TGGTATGGCGTAAACATCGGAGGTTGGAATCTCCCTTAAACCGCGGTAGCGGCCCA 6355  
 6366 CCGCAGGCGCAUAAUAAAGCGAGGUGGUGGUAUCCCGGUGUACCCCGGUGAGGGGCCCA 6425

RESULT 12  
 US-10-828-029-3  
 ; Sequence 3, Application US/10828029  
 ; Publication No. US20040171813A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: GABER, STEPHEN  
 ; HOLTZ, R. BARRY  
 ; MCCULLOCH, MICHAEL  
 ; TURPEN, THOMAS  
 ; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
 ; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
 ; FROM PLANT SOURCES  
 ; NUMBER OF SEQUENCES: 5  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Howrey & Simon  
 ; STREET: 1299 Pennsylvania Avenue N.W.

CITY: Washington  
 STATE: DC  
 COUNTRY: USA  
 ZIP: 20004  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Diskette  
 COMPUTER: IBM Compatible  
 OPERATING SYSTEM: DOS  
 SOFTWARE: FastSEQ for Windows Version 2.0  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/10/828,029  
 FILING DATE: 20-Apr-2004  
 CLASSIFICATION: <Unknown>  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US/09/962,527  
 FILING DATE: 24-Sep-2001  
 APPLICATION NUMBER: 09/037,751  
 FILING DATE: 10-march-1998  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Halluin, Albert P  
 REGISTRATION NUMBER: 25,277  
 REFERENCE/DOCKET NUMBER: 00801.0140.999  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 650-463-8109  
 TELEFAX: 650-463-8400  
 TELEX: <Unknown>  
 INFORMATION FOR SEQ ID NO: 3:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 6425 base pairs  
 TYPE: nucleic acid  
 STRANDEDNESS: single  
 TOPOLOGY: unknown  
 MOLECULE TYPE: Genomic RNA  
 SEQUENCE DESCRIPTION: SEQ ID NO: 3:  
 US-10-828-029-3

Query Match 38.3%; Score 2431.2; DB 19; Length 6425;  
 Best Local Similarity 44.4%; Pred. No. 0;  
 Matches 2852; Conservative 1174; Mismatches 2298; Indels 96; Gaps 12;  
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 DB 18 ACCAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACAACA 77  
 QY 80 ATACATCTATATTAATAGCAACCGCCCTTCTTGAAGCGTGAGTGGTAAACAACTCTCGTT 139  
 DB 78 ACACAGACAGCUCAC 137  
 QY 140 AATGACCTTGCAAGAGCGGCATGTACGATACGCGCGTGGAAGAATTTAAACGCGCCGAC 199  
 DB 138 AAUGAUCUAGCAAGCGUGUCUUAACGACACACAGCGGUGAAGAGUUAACGUCUGAC 197  
 QY 200 CGTAGACCAAGGTCACTTTTCCAAACTATTAGGAGAGCAACGCTTCTAGTCTCC 259  
 DB 198 CGCAGGCCCAAGGUGAACUUUCCAAAAGUAUAUAGCGAGGACGACGCUUAUUGCUACC 257  
 QY 260 AACGCTACCGGAGTTCAGATTACCTTTTATATATCTCAAAATCCCGTACACAGTTTG 319  
 DB 258 CGGCGUUAUCCAGAAUCCAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 317  
 QY 320 GCTGGAGGTTTGAGAGCATTAGAAATTTGGAATATCTGATGCTCAAGTTCCTTATGATCG 379  
 DB 318 GCAGGUGGUAUUGCGAUCUUUAGAACUGGAUAUUCUGAUGAUGCAAAUUCGCUACGUA 377  
 QY 380 CCGACATATGATATAGTGGGAACCTTTCAGACACATTTGTTCAAGAGCGGGATTACGTCG 439  
 DB 378 UUGACUUAUAGCAUAGCGGGAUUUUUGCAUCUUCUUAUUAUUAUUAUUAUUAUUAUUA 437  
 QY 440 CATTTGCTGTATCCCAATCTGGACATACGAGATATAATGAGGACGACGCAAAAGGAC 499  
 DB 438 CACUGCUGAUGCCCAACCCUGGACGUGUAGAGCAUCAUCGCGGACGACGAGCCAGAAAGAC 497  
 QY 500 TCAATTGAGATGTATTTGTCTCAGATTGTCTCTTCAACAGGTAAATCTCTGAGTTTCAA 559

Db	498	AGUAUUGAAACUAAUACUUUUCUAGCGUACGAGAGAGGGGGGAAAAACAGTCCCAACUCCAA	557
Qy	560	AGGAGAGCTTTTAAACAGGTATGAGAAAGCTCCCAACGAAGCTCTGCTGTCTAAACACTTTT	619
Db	558	AAGAAGCAUUUGACAGUAACGCAAGAAUUUCUGAAGACGCGUCUGUCUACAUAUUCUUC	617
Qy	620	CAGGATTTGTCGAATACATCCGCCCAGAGAAATAGTGGTAGAAGATACGCTGTTGCTGCAC	679
Db	618	CAGCA AUGCGACAUCAGCCGAUCAGCAACUAGCGAGAGUGUAUGCCA UUGCGUACAC	677
Qy	680	AGTTTGTATGATATTCCTGTGTCATGAGTTTGGAGCTGCGTTAATATCTTAAGAATATACAT	739
Db	678	AGCAUAUAUGACAUAACCAAGCGAUGAUCUGCGGGCGGCACUCUUGAGGAAAAAUGUCCAU	737
Qy	740	GTATGTTATCGACTTCCATTTTGGCAGAAGCATTTACTAGACCAGACGGAGGTTACG	799
Db	738	ACGUGCUAUGCCGUUUUCCAUUCUCUGAGAACCCUGCUUCUUGAAGAUCAUACGUCAAU	797
Qy	800	CTTTAAATGAAATAGGCGCAACTTTTCAAAAGAGAAAGGTGATGATGTTCTTTTTCCTTGTCT	859
Db	798	UUGGACGAAAUCAACGCGUGUUUUCGCGGAUGGAGACAAGUAGCUUUUCUUUGCA	857
Qy	860	GATGAAAGTACTTTAAATTAATAGTCATAAATACAAAAATATCTTGCATATAGATTATAA	919
Db	858	UCAGAGAGUACUCUTAAUAUAUUGUCAUAGUUAUUCUAAUAUUCUUAAGUAUGUGUGCAAA	917
Qy	920	TCCTTACTTTCCTGCTCTAGTAGAATAGTTTACTTTTAAAGGAATTTTTAGTCATCAGGTT	979
Db	918	ACUUACUUCGCGGCCUUAUAGAGAGGUUUAUAGAAGAGUUUUUAGUACACAGAGAU	977
Qy	980	AATACTTTGGTTTGTAAATTTACCAAAAGTAGATACCTATATCTGTACAAAGAGTGTTAGA	1039
Db	978	AUAUCCUGGUUUUGAAGUUUUUCAGAAUAGAUACUUUCUUUGUAACAAAGGUGGCC	1037
Qy	1040	CAAGTAGGGTGTGATAGTAGATCAGTTCTATGAGCGCATGGAAGACGCTTTGCTTACAAG	1099
Db	1038	CAUAAAAGUGUAUAGUAGGAGCAGUUUAUACUGCAAUUGAAGACGCAUGGCAUUAACAA	1097
Qy	1100	AAAACCTTGCCCATGTTCAACACTGAAGAGCAATCTTTAGACACACGGCTTCGGTTAAC	1159
Db	1098	AAGACUCUUGCAUUGUGCAACAGCGAGAGAAUCCUUGAGGAUUAUCAUACAGUCAAU	1157
Qy	1160	TTTTGGTTCCCTAAGATGAAGGACATGGTGATAGTACCGCTGTTGTAGGGTCTTATTACC	1219
Db	1158	UACUGGUUUCCAAUUGAGGGAUUGGUAUGUAUUGCAUUAUUGCAUUAUUCGUAUGGAG	1217
Qy	1220	AGCAAAAAGATGACAAGGAGTGAGGTCATTGTTTAATCGTGACTTCGTTTACACAGTGCTT	1279
Db	1218	ACUAGAAGAGGACGCGCAAGGAAGUCUAGUGUCCAAGGAUUUCUGUUUACAGUGUCUU	1277
Qy	1280	AATCATATCAGACATATCAAGCCAAAGCGTTAACTTTACCAGACGCTATTATCTTTCGTG	1339
Db	1278	AACCAUAUCGAACAUACCAAGCGGAAGCUCUUAACUACGCAAAUUGUUUUCUUUGUC	1337
Qy	1340	GAGTCTATAAGATCCCGCTGATAAATCAATGGTGTTACTGCTAGGTCGTAATGGGATGA	1399
Db	1338	GAUUCGAUUCGACGAGGUUAUCUUAACGGUGUGACAGGAGGUCGGAUUGGGAUGUG	1397
Qy	1400	GATAAAGCAATTTCTCAACCTTGCTCAATGACTTTTCTTCTGACAGACTAAGCTGGCTGCG	1459
Db	1398	GACAAAUUUUGUAUAAUCCUUGUCAUGAGGUUUUACUUGCAUUAUAGCUGUCCGUU	1457
Qy	1460	CTTCAAGACGATATAGTAAATGGGAAAGTTTCGCTGCTTGGATAGACCACTTCTGAACCTT	1519
Db	1458	CUAAAGGAUGACAUAUCGUAUAGCAAGUUAUGUCUGGUUUGCAAAACGGUGUGCCAGCAU	1517
Qy	1520	ATTTTGGATAGGTGGGCAAAATTTTTGGAAAACGTTTTTCCCACTATCAAAAGAGAGATTG	1579
Db	1518	GUGUGGAUGAGAUUUCGCGGUUUGGGAAACGAUUUCCUCCUGGAAGAGAGGCGUC	1577
Qy	1580	GTGAGCAGGAAAAATTTCTGGATTGAAGTGAGAAATGCTCTGAAGATCAAGATCCCAGATCTG	1639

D	b	1578	UUGAAACAGGAAAACUUUAUCAGAGUGGCACGGCGCAUUAAGAUACAUCAGGGUGCCUGAUCUA	1631
Q	y	1640	TATGTTCACATGGAAGAAGCAGGTTTCGTAGCTGTAATACACCAAGTCTCAGGAGTTTACC GCAT	1699
D	b	1638	UAUGAGACCUUCCACGACAGAUUAUGACUGAGUAACAAGGCCUCUCUGGACAUUGC CGC	1697
Q	y	1700	CTAGATATCAAGAAGGACTTAGAAGAAGCTTGAGCAAATGTACGACGGTTATT CAGAAATTA	1759
D	b	1698	CUTUGACAUUAGGAAGAAGGAAGAAAACGGAAUGAUGUACAAGUCAUUUCAGAGUUA	1757
Q	y	1760	TCTATCCTTAAGGGTGTGATAATTTTCGATATCGCGAAGTTTCAAGACACATGTCCAAGGCT	1819
D	b	1758	UCGGUGUUAAGGAGUCUGACAAAUUCUUGUUGAUUGUUUUUCCCAGAUGGCCAUAUCU	1817
Q	y	1820	TTAGATTTAGTTCCTGATGTGGCAGCACGAGTAATCGTTGCACTGGCCGAGAAATAGAAGC	1879
D	b	1818	UUGGAAGTUAGCCAAUGACGGCAGCGAAGGUUAUAGUCGCGUCAUGAGCAAUAGAGAC	1877
Q	y	1880	GTTTTAACTCTTAATCTTTTGTATAAGCCAACGGAGAGAAATGTGGCTTAAGGCTCT-----T	1933
D	b	1878	GGUCUGACUCUCAUUGAAACACCCUACUGAGCGCAAUUGUCGUCUUAUACAGGAU	1937
Q	y	1934	AAAAGCACCGGCTCGAGCGCTGGTGTATGCTTTGAACCGGACATCCGAAGAGGTGAACGTA	1993
D	b	1938	CAGAAGAGCGUCUAGAAGGUGCUUUGUUAUGUACUCUAAGAGAAGUUGAAGAACCGUCC	1997
Q	y	1994	AATAAATTTTCTATTGTCGAAAAAGGAGATTGCCTGTGTGTGCAGAAAAGTCATGTTTG	2053
D	b	1998	AUGNAGGCUUGAUGCCAGGAGAGAGUUAACAUAAGCUGGUCUUGCUGGAGAUCAUCG	2057
Q	y	2054	ACGAATGCTAACTTAGAGCAACGAGGAGTTGGAGTCCCTCAACGATTTCATAAGGCTTGC	2113
D	b	2058	GAGUCGUCUAUUCUAAAGAACGAGGAGUAAGAGUCUUUAGAGCAGUUAUACAUGGCAACG	2117
Q	y	2114	GTGGATAGTGTGATTACAAAGCAAATGGCATCGTGTGTCTACACTGGCTCACTCAAGTTT	2173
D	b	2118	GCAGUVCUGUUAUUCGUAAGCAGAGAGAGCUCGAUUGUGUACACGGGUCCGAUUAAGUU	2177
Q	y	2174	CAACAAATGAAGAACTATGTGGACAGTTTGGCAGCTTCGTTGTCCGCCCACTGTATCAAAT	2233
D	b	2178	CAGCAAAUGAAAACUUUAUCGAUAGCCTUGUAGCAUCAUAUCUGCUGCGUGUCGAU	2237
Q	y	2234	CTATGCAAGTCACTAAAGGATGAAGTCGGGTATGATTTCTGATTCAGGGAGAAAGTTGGT	2293
D	b	2238	CUCGUCAAGAUCUCAAAGAUACAAGCUGCUUAUUGACCUUGAAAAACCCGUCAAAAAGUUUGA	2297
Q	y	2294	GTTTGGATGTCACTTTGAAAAAGTGGCTCCTCAAACTCGCGCCAAAGCTCATTCATGG	2353
D	b	2298	GUCUUGAUGUGUACUUCAGGAAGUGGUUAUACAACCAACCGGCAAGAGUAGUAGG	2357
Q	y	2354	GGAGTGTCTGGATTACAAGGGGAAAATGTTTACTGCACTTCTATTATGAAGGAGAT	2413
D	b	2358	GGUUGUUGAACCACCGCAGGAGAUACAUGUGCGCGCUUUGGAAUAUGAUGAGCAG	2417
Q	y	2414	AGAAATGTGACTGAGAGCGACTGGAGAGGGTGGCTGTATCACTGTGATCAATGTGTTATAT	2473
D	b	2418	GGUGUGUGACAUGCGGAUGAUUGAGAGAAGUAGUGCUGACAGCUGAGUCUGUUGUUUAU	2477
Q	y	2474	TCTGTATTGCAAGCTCCAAATCTTCAGAAAACAATGAGAGACGCTGAACCCCCACGAA	2533
D	b	2478	UCCGACAUUGCGGAAACUFCAGAAUCUCGCGCAGACUCUGCAACCGGAGAACCGCAUUC	2537
Q	y	2534	CCTACTGCAAGATGTGTACTTTGTGGATGGGGTGCTGGTTGTGGAAGTACAAGGAGAT	2593
D	b	2538	AGUAGCGAAAGGUUGUUCUUGGACGGAGUUCGGGCUUGGGGAAAAACCAAGAAAUU	2597
Q	y	2594	TTTGAAAGATTTGATCTTTGATGAGGATTTGATCTTTGGTTCTCTGGAAAAACAAGCTGTGCT	2653
D	b	2598	CUUCCAGGGUUAUUUUGAUGAAGAUCAUUAUUUAGUACUCUGGGAAGCAAGCCGCGGAA	2657
Q	y	2654	ATGATCAGAGAAGCGCTAATTCATCTGGACTGATAAGAGCCCAATGGAACAATGTGAGA	2713
D	b	2658	AUGACAGAGACGUGCGAAUUCUCCAGGGAUUAUUGUGGCCACGAAAGGACACAGUUA	2717







Db 198 CGCAGGCCCAAGGTGAACCTTTTCAAAAGTAATAAGCGAGGAGCAGACGCTTATTGCTACC 257  
 Qy 260 AACGGTATCCCGAGTTCCAGATTACCTTTTATAATATCTCAAAATGCGGTACACAGTTTG 319  
 Db 258 CGGGCGTATCCAGATTCCAAATTTACATTTTATTAACCGCAAAATGCCGTGATTCGCTT 317  
 Qy 320 GCTGGAGTTTGGAGCAATTAGAATTGGAATATCTGATCTACAAAGTTCCCTTATGATGG 379  
 Db 318 GCAGGTGGATTCCGATCTTTAGAACTGGAATATCTGATGATGCAAAATCCCTACGGATCA 377  
 Qy 380 CGACATATGATATAGTGGGAACTTTGACGACATTTGTTTCAAAGGCGAGGATTAACGTG 439  
 Db 378 TTGACTTATGATAGTGGGAAATTTTGATCGCATCTGTTCAAAGGCGAGCATATGTA 437  
 Qy 440 CATTCGTATGCCAACTCTGACATACGAGATATAATGAGCAGCAAGGACAAAGGAC 499  
 Db 438 CACTCTGTATGCCAACTCTGACATCTGAGACATCTGCGGACGAGGCGCAAGAGAC 497  
 Qy 500 TCAATTGAGATGATTTGTCAGATTGCTCGTTCTTAACAAGGTAAATTCCTGAGTTTCAA 559  
 Db 498 AGTATTGAACATATACCTTTCTAGGCTAGAGAGAGGGGGGAAACAGTCCCCAACTTCCAA 557  
 Qy 560 AGGAGGCTTTTAAACGATATGACAGAGCTCCCAACGAGTCTGCTCTTAAACTTTT 619  
 Db 558 AAGGAAGCATTTGACAGATACGAGAAATTTCTGAAGACGCTGTCTGTCACAATATCTTC 617  
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 Db 618 CAGACAAATGCGACATCAGCCGATGCGCAATCAGGCGAGATGATGCGCATTCGCTACAC 677  
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 Qy 920 TCTTACTTTCTGCTTCTAGTAGAAATGATTTTAAAGAAATTTTATGCTACTAGGTT 979  
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 Qy 980 AATACTTGGTTTGTAAATTTACCAAGTAGATACCTATATCTGTACAGAGTGTAGA 1039  
 Db 978 AATACTTGGTTTGTAAATTTCTAGAAATAGATCTTTCTTTGTACAAAGGTGCGCC 1037  
 Qy 1040 CAAATAGGCTGATAGTATGATCAGTTTCTATGAGGCGATGGAAGACGCTTTGCTTACAAG 1099  
 Db 1038 CATAAAGTGTAGATAGTACGAGTTTATCTGCAATCGAATCGAAGCGCATGGCATTACAA 1097  
 Qy 1100 AAAACCTTGGCATGTTTCAACACTGAAAGAGCAATCTTTAGAGACACGCGCTTCGGTTAAC 1159  
 Db 1098 AAGACTCTTGCAATGTGCAACAGCGAGAGAAATCTCTTTGAGGATTCATCATCAGTCAAT 1157  
 Qy 1160 TTTTGGTTCCTTAAGATGAAGACATGTTGATAGTACCGCTGTTGAGGCTTCTATTACC 1219  
 Db 1158 TACTGGTTTCCCAAAATGAGGAGATGGTTCATCGTACCATTAATTCGACATTTCTTTGGAG 1217  
 Qy 1220 AGCAAAAGATGACAAAGGAGTGAAGTCAATGTTTAAATCGTGACTTCTGTTTACAGTGTCT 1279  
 Db 1218 ACTAGTGAAGGACGCGAGGAGTCTTAGTGTCCAAGATTTCTGTTTACAGTGTCT 1277  
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 Db 1278 AACCACATTCGAACATATACAGGCGAAAGCTCTTACATACGCAAAATGTTTGTCTTGTCT 1337

Qy 1340 GAGTCTATAAGATCCCGGTGATTAATCAATGGTGTACTGTAGTCTGAAATGGGATGTA 1399  
 Db 1338 GAATCGATTCGATCGAGGTAAATCAATTAACGGTGTGACAGCGAGTCCGAAATGGGATGTG 1397  
 Qy 1400 GATAAAGCAATTTCTTCAACCTTGTCAATGACTTTCTTCTTGCAGACTAAGCTGCTGG 1459  
 Db 1398 GACAAATCTTTGTTTAAATCTTGTCCATGACGTTTACCTGTCATTAAGCTTGCCTGTT 1457  
 Qy 1460 CTTCAAGACGATATAGTAATGGGAAAGTTTCGGTCTGTTGGATAAGACCACTTCTCAACTT 1519  
 Db 1458 CTAAGGATGACTTACTGATTAAGCAAGTTTAGTCTCGGTTTCGAAACCGTGTGCCAGCAT 1517  
 Qy 1520 ATTTGGGATGAGTGGGCAAAATTTTGTGAAAACGTTTTCCTCCCATATCAAAAGAGATTTG 1579  
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 Qy 1580 GTGACGAGAAAATTTCTGGATGATGATGATGCTCTGAAAGATCAAGATCCAGATCTG 1639  
 Db 1578 TTGAAACAGGAAATCTTATCAGAGTGGCAGCGCATTAGAGATCAGGCTGCTGATCTA 1637  
 Qy 1640 TATGTACATGGAAGACAGAGTTTCGTAGCTGAATACACCAAGTCTGAGGAGTTACCGCAT 1699  
 Db 1638 TATGTGACCTTCCACGACAGATTAGTACTGATGACAGGCTCTGTGGACATGCTGCG 1697  
 Qy 1700 CTAGATATCAAGAAGGACTTAGAAGACTGAGCAAAATGTACGACGCTTATCAGAAATTA 1759  
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 Qy 1760 TCTATCTTAAAGGCTGATTAATTTTGCATATCGGAAGTTTCAAAGACATGTCAGGCT 1819  
 Db 1758 TCGGTGTTAAAGGAGTCTGACAAATTCGATGTTGATGTTTTCCTCCAGATGTCGAATCT 1817  
 Qy 1820 TTAGATGTTAGTCTGATGTGCGACACGAGTAAATCGTTGTCAGTGGCGGAGAAATAGAAGC 1879  
 Db 1818 TTGGAAGTTGACCAATGACGCGAGGAGTTTATAGTCCGCTCATGAGCAATGAGAGC 1877  
 Qy 1880 GGTTTAACTCTTATCTTTTGAAGCAACCGAGGAGAAATGTGGCTTAAAGCTCT-----T 1933  
 Db 1878 GGTCTGCTCTCACATTTTGAACGACCTACTGAGGCGAAATGTTTGGCTAGCTTTTACAGGAT 1937  
 Qy 1934 AAAACGACGCGCTGTGAGCGCGTGTGTCTTGAACCGACATCCGAGAGGTGAACGTA 1993  
 Db 1938 CAAAGAGAAGGCTTCAGAAGGCTCTTGGTAGTTTACCTCAAGAGAAGTTGAAGAACCGTCC 1997  
 Qy 1994 AATAAATTTCTATTGCTGAGAAAAGGAGATTGCTGTGTGTGTCAGAAAAGTCAATGTTTG 2053  
 Db 1998 ATGAAGGTTTCGATGGCCAGAGGAGTTTAAATTTAGTGTGCTTGTCTGGAGATCATCCG 2057  
 Qy 2054 ACGAATGTCTAACTTAGAGCACCGAGGTTGGAGTCTCCCTCAACGATTTCCATAGGCTTGC 2113  
 Db 2058 GAGTCGTCTTATTTAAGAACGAGGAGATAGAGTCTTTTAGACAGATTTTATATGGCAACG 2117  
 Qy 2114 GTGGATGATGATTAACAAGCAATTTGCGTGTGCTGCTGCTGCTGCTGCTGCTGCTGCTGCT 2173  
 Db 2118 CGAGATTTCTTAAATTTCTGAAGCAGATGAGTCTGATTTGTGTACACGCGTCCGATTAAGTT 2177  
 Qy 2174 CAAACAAAGCAAACTATGTGACAGTTTGGCAGCTTCTGCTGCTGCTGCTGCTGCTGCTGCT 2233  
 Db 2178 CAGCAATGAAAACCTTTATCGATAGCTGGTAGGATCACTATCTGCTGCTGCTGCTGCTGCT 2237  
 Qy 2234 CTATGCAAGTCACTAAAGGATGAAGTCCGGTATGATTTCTGATTTCCAGGAGAGAAAGTTGT 2293  
 Db 2238 CTCGTCAAGATCTCAAGATACAGTGTCTATTGACCTTTGAAACCGCTCAAAAGTTTGA 2297  
 Qy 2294 GTTTCGGATGTCATTTTGAAGAGGCTCTCTCAAACTGCGGCGCAAGGTCATTCATGCG 2353  
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 Db 2358 GGTGTTGTTGAAACCCACGCGAGGAGTATCATGTGGCGCTTTTGGAAATGATGAGCAG 2417



4578	TTTGAAGCAAAACGTGTTTAAACAAACAGTATGGATCTCTTTTGGGAGAGATATGTAATACAT	4637	
Qy	4622	CATGATAAGGGAGCAATAGTGTGTTATTATGATCTCTTTGAAGTTGATCTCCAACTTGGGGCA	4681
	4638	CACGACAGAGATGCAATTGTGTATTACGATCCCTAAAGTTGATCTCGAAACTTGGTGCT	4697
	4682	AAACATATCAAGGATATGATCATTACAGAGAGTTAAGGTGTCTTTGTGCGGATGTGTGCT	4741
Db	4698	AAACACATCAAGGATTTGGGAACTCTGGAGGAGTTTCAGAAAGGTCTCTTTGTGTGATGTGTGCT	4757
	4742	TGTTTCGCTCGGAACTGCTTAGGCTTTCCGCGAGCTGAAACGAGCTATCAAGAGAGTT	4801
	4758	GTTCGTGTT---GAACAAATTGCGGTATTACACACGTTGGACGACGCTGTATGGGAGTT	4814
Qy	4802	CATAAAACCGGATTTGATGGTTTCGTTTGTCTTTTAAATTGTGTTAACAAATTTTGTGTGAT	4861
	4815	CATAAGACCGCCCTCCAGGTTTCGTTTGTATTATAAAGTCTGGTGAAGTATTTGTCTGAT	4874
	4862	AAATTTTATTTAGAACTTTTGTTTTTTAAATGGCTGTGTAGTCTCAGAGATACTGTCAAAAT	4921
Db	4875	AAAGTCTCTTTTAGAAGTTGTTTATAGATGGCTCTAGTTTGTTTAAAGGAAAGTGAATAT	4934
	4922	TAGCGAGTTCATTGATCTTTTCGAAACAGGATGAGTACTTCCGGCATTCATGACTAAGGT	4981
	4935	CAATGAGTTTATCGACCTGACAAAATAATGGAGAAATCTTACCGTCGATGTTTACCCCTGT	4994
Qy	4982	CAAGAGTGTTAGAATATCGACTGTGGACAGATTTATGGCTGTAAAGAAATGATAGTCTTTC	5041
	4995	AAAGAGTTTATGTGTTCCAAAGTTGATAAATAATGGTTTCATGAGAAATGATGTC	5054
	5042	TGATGTAGATTTACTTTAAAGTGTTTAAAGTTAGTTTAAAGAAAGGTTATGTGTCTTAGCTGA	5101
Db	5055	AGAGTGAACCTTCTTTAAAGGAGTTTAAAGTTTATTTAGTAGTGAATACGCTCTGTTTAGCCGG	5114
	5102	TTTGCTAGTGTCTGGGAGTGGAACTCTCCCGGATAACTGCCGTGGTGGTGTCTCAGTGTTCG	5161
	5115	TTTGCTCGTCAACGGCGAGTGGAACTTGGCTTCGACAAATTCGACAGAGAGGTGTGACGCGTGTG	5174
Qy	5162	TATTGTAGATAAGAGATGAAGAGGAGTGAAGGAAGCAACGCTGGGTGGGTATCAACGCCCC	5221
	5175	TCTGGTGGACAAAAGATGGAAAGACGACAGGCCACTCTCGATCTTACTACACAGC	5234
	5222	TGCTTGTGCAAAAGAAATTTTCTCTTTTAAAGCTAATCCCTAATTTTCAATTAACATCCGAGGA	5281
Db	5235	AGCTGCAAGAAAGAAATTTTCAGTTTCAAGTCTGTTCCCAATTTATGCTATAACCAACCCAGGA	5294
	5282	TGCTGAGAGCAACCGGTGGCAAGTGTGTAGTGAATATCAAAGAGTGGCTATGGAGAGAGG	5341
	5295	CGCGATGAAAAACGCTCTGGCAAGTTTTAGTTTAAATATTAGAANAATGTGAAGATGTCAAGCGGG	5354
Qy	5342	ATACGTGCTTTATCTTTTGGAGTTCGTTTCAATTTTGTCTAGTACATAAAAAATAATGTAAAG	5401
	5355	TTTCTGTCCGCTTCTCTCGGAGTTTGTGTCGGTGTATTGTTTATAGAAATAATATATAA	5414
	5402	AAAAGGTTTGAAGGAAACGTAATTTTGTAGTGTGACAGACGGCTCGCCAAATTTGAACCTCTGA	5461
Db	5415	ATTAGTTTGAAGAGAGAGATTAACAACTGTGAGACGGAGGGCCCATGGAACTTACAGA	5474
	5462	AAAAGTGTTCGAGGAGTTTCGTGGATGAAGTACCAATGCTGTGAAACTCGAAAAGGTTTC	5520
	5475	AGAAGTCTGTGATGAGTTTCATGGAAGATGTCCTATGTTCGATCAGCTTCAGGCTTCGAAAGTTTC	5533

RESULT 14

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RESOLUT 001
US-09-393-059-33
; Sequence 33, Application US/09993059
; Publication No. US20020088024A1
; GENERAL INFORMATION:
; APPLICANT: GARGER, Stephen A.
; APPLICANT: TURPEN, Thomas H.
; APPLICANT: KUMAGAI, Monto H.
; TITLE OF INVENTION: PRODUCTION OF LYSOSOMAL ENZYMES IN PLANTS BY TRANSIENT EXPRESSION
; TITLE OF INVENTION: PLANTS BY TRANSIENT EXPRESSION

```

Db 858 TCAGAGAGTACTCTTAATATTATGTCATAGTTATTCTTAATATTCTTAAGTATGTCGAAA 917  
Qy 920 TCTTACTTTTCCTGCTCTCTAGTAGAATATTCTTTAAGGAATTTTATGTCACCTAGGGTT 979  
Db 918 ACTTACTTCCGGCTCTAATAGAGAGTTTACATGAAGAGATTTTATGTCACCAAGATT 977  
Qy 980 AATACCTGGTTTGTAAATTTACAAAGTAGATACCTATTCTGTACAGAGTGTAGA 1039  
Db 978 AATACCTGGTTTGTAAATTTCTAGAAATAGATACCTTTCTTTGTACAAAGGTGTGCC 1037  
Qy 1040 CAAGTAGGGTGTAGTAGTACAGTCTATGAGCGGATGAAGACGCTTTGCTTACAAG 1099  
Db 1038 CATAAAAGTGTAGTAGTACAGTCTTTTACTGCATGGAAGCGCATGGCATTAACAA 1097  
Qy 1100 AAAACCTTGGCCATGTTCAACACTGAAAGACAACTTTTAGAGACACGGCTTCGGTTAAC 1159  
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Qy 1160 TTTTGGTTCCCTAAGATGAAGGACATGGTGTAGTAGTACCGCTTTGAGGGTTCTATTACC 1219  
Db 1158 TACTGGTTTCCCAAAATGAGGGATATGGTCAATCGTACCATTTATTTCGACATTTCTTTGGAG 1217  
Qy 1220 AGCAAAAGATGACAAAGAGTGAGGTCTATGTTAATCGTGACTTCGTTTACACAGTGCCT 1279  
Db 1218 ACTAGTAAGAGGACCGCAAGGAAGTCTTAGTGTCGAAGATTTCTGTTTACAGTGCCT 1277  
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Qy 1400 GATAAAGCAATTTCTCAACCTCTGCAATGACTTTCTTTGACAGACTAAGCTGGCTGCG 1459  
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Qy 1460 CTTCAAGACGATATAGTAATGGGAAAGTTTCGGTGTCTGGATAAGACCACTTCTGAACTT 1519  
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Db 1878 GGTCTGACTCTCACAATTTGAAACGACCTTACTGAGCGGAATGTTGCGCTAGCTTTACAGGAT 1937  
Qy 1934 AAAAGCAGCGGCTCTGAGCGCGTGTATGTTCTTGAACCGACATCCGAAGAGGTTGAAACGTA 1993  
Db 1938 CAAGAGAGGCTTTCAGAAAGGTGCTTTGGTAGTTTACCTCAAGAGAAAGTTGAAGAACCGTCC 1997

Qy 1994 AATAAATTTTCTATTGCTGAGAAAAGGAGATTGCTGCTGTGTGTGTCAGAAAGTCATGTTTG 2053  
Db 1998 ATCAAGGGTTCGATGGCCAGAGGAGAGTTTAAATTTAGCTGTCTTGTCTGGAGATCATCCG 2057  
Qy 2054 ACCAATCTTAACCTTAGAGCACAGGAGTTCGGAGTCCCTCAACGATTTTCCATAAGGCTTGC 2113  
Db 2058 GAGTCGTCTTAATCTTAAGAACGAGGAGATAGAGTCTTTAGAGCAGTTTTCATATGGCAACG 2117  
Qy 2114 GTGGATAGTGTGATTTACAAAGCAAAATGGCATCGGTTGTCTACACTGGCTCACTCAAAAGTT 2173  
Db 2118 GCAGATTCGTTAATTCGTAAGCAGATGAGCTCGATTTGTGTACACGGGTCCGATTTAAAGTT 2177  
Qy 2174 CAACAAATGAAGAACTATGTGGAACAGTTTGGCAGCTTCGTTTCCGCCACTGTATCAAT 2233  
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Qy 2474 TCTGATATTCCAAAGCTCCAAAATCTGAGGAAAACAAATGAGAGACGCTGAAACCCACGAA 2533  
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Db 2538 AGTAGCGCAAAAGGTGTTCTTGTGGACGAGTGTCCGGGCTGTGGGAAAACCAAAAGAAAT 2597  
Qy 2594 TTTGAAAGATTGATCTTGATGAGGATTTGATCTTGGTTCTCTGAAAACAAAGCTGTGCT 2653  
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Qy 2714 ACGGTAGATTCACTTCTAATGCAAT-----CCAAAACGGCGATCACACAGAGGCTT 2764  
Db 2718 ACCGTTGATTTCTTTCATGATGAAATTTTGGGAAAAGCACAGCTGTCTGATTTCAAGAGGTTA 2777  
Qy 2765 TTTTATGATCAAGGGTTGATGTGCACACCGGTTGTGTAACTTCTCTGGTGCTTATCTCT 2824  
Db 2778 TTCATGATGAAGGGTTGATTTGTCATCTGTTGTTGTTAAATTTTCTTGTGGCGATGTCA 2837  
Qy 2825 GGTTCGACATCGCATACATTTTACGGGATACACAGCAGATTCCTTTCAITTAACAGAGTT 2884  
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Qy 2885 CAGAAATTCGGTATCCCAACCAATTTTGAAGCTGCAAGTGGATGAAGTTGAGATGAGG 2944  
Db 2898 TCAGGATTTCCCGTACCCCGCCCAATTTTGGCAAAATGGAAGTTGACGAGGTGGACACAGC 2957  
Qy 2945 AGGACACACTGAGATCCCGAGGTGATGTAATTTTTTCTTCACTCAATCGAAGTACGAAGGA 3004  
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Qy 3005 GCGGTGAACAACCACTCAACTGTACAACGATTCGGTCTCATCTGTAGATGATAGCGGTAAAG 3064  
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QY 3065 GGAGTAAACAGTGTTCACAAACCACTAAAGGGGAAATTTGTAACCTTTCACTCAGGCT 3124  
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 Db 3198 GCGGAGACATCTCTGATGTTTCACTAGTTAGTTAAACCCCTACACCCAGTCTCCATCAT 3257  
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 QY 3605 AAAAGTATTCGATGCCAAGAGGTGAACCATGCTAGAGCCAGTTTGTGCTACCGCG 3664  
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 QY 3905 GACTTGGCTAACTCAATTTTACAGATCTCCGGCCATCGATCAGTACAGACATGATC 3964  
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 Db 4758 GTTTCGTT---GAACAATTTGCTGCTATTACACACAGTTGGAACGCTGTATGGAGGTT 4814  
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 Db 4815 CATAGACCGCCCTCCAGTTTCTGTTTATATAAAGTCTGTTGAAGTATTTTGTCTGAT 4874  
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 Db 4935 CAATGAGTTTATCGACCTGACAAATAATGGAGAAATCTTACCGTCAATGTTTACCCCTGT 4994  
 QY 4982 CAAGAGTGTAGAAATATCGACTGTGGAACAAGATTTAGGCTGTTAAGAAATGATAGTCTTTC 5041  
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 Db 5055 AGAGGTGAACCTTTTAAAGGAGTTAAGCTTTATGATAGTGGATACCTCTGTTTAGCCGG 5114  
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Db 5235 AGCTGCAAGAAAGATTTTCAGTTCAAGTTCGTTCCCAATTTATGCTATATACCCAGGA 5294  
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## RESULT 15

US-10-103-327-33  
; Sequence 33, Application US/10103327  
; Publication No. US20030106095A1  
; GENERAL INFORMATION:  
; APPLICANT: GARGER, Stephen A.  
; APPLICANT: TURPEN, Thomas H.  
; APPLICANT: KUMAGAI, Monto H.  
; TITLE OF INVENTION: PRODUCTION OF LYOSOMAL ENZYMES IN  
; TITLE OF INVENTION: PLANTS BY TRANSIENT EXPRESSION  
; FILE REFERENCE: 008010087CPUS06  
; CURRENT APPLICATION NUMBER: US/10/103,327  
; PRIOR FILING DATE: 2002-03-20  
; PRIOR APPLICATION NUMBER: US/09/993,059  
; NUMBER OF SEQ ID NOS: 37  
; SOFTWARE: RastSEQ for Windows Version 4.0  
; SEQ ID NO 33  
; LENGTH: 11641  
; TYPE: DNA  
; ORGANISM: Tobacco mosaic virus  
US-10-103-327-33

Query Match 36.1%; Score 2291.4; DB 15; Length 11641;  
Best Local Similarity 64.0%; Pred. No. 0;  
Matches 3532; Conservative 0; Mismatches 1966; Indels 21; Gaps 4;  
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Db 18 ACCAACACAAACAAACAAACAAACATTAACAAATTAACAAATTAACAAATTAACAAATTAAC 77  
Qy 80 ATACAATCTAATTAAGCAACGCCCTTCTTGAAGCGGTGAGTGTGTAACAAACAACTCTCGTT 139  
Db 78 ACACAGACAGCTACACATCAGCTTGTGTCGACACTGTCCGAGGAAACAACTCCTGTGTC 137  
Qy 140 AATGACCTTCAAGAGCGCATGTACATGACGCGGTGAGAAATTTAAGCGCGGAC 199  
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Qy 200 CGTAGACCAAGGTCAACTTTTCAAACTATTAGCAAGCAACGCTTCTAGTCTCC 259  
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Qy 260 AACGCGTACCGGAGTTCAGATTAACCTTTTATTAATCTCAAAATGCGGTACACAGTTTG 319  
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Qy 320 GCTGGAGTTTGAAGCAATTAAGATTAATCTGATCTGATGCTACAGTTTCCCTATGATCG 379  
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Qy 500 TCAATTGAGATGTATTGTCCAGATTGCTCTGTTCTTAAACAAGGTAAATTCCTGAGTTTCAA 559  
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Qy 560 AGGAGGCTTTTAAACAGGTATGAGAACTCCCAACGAAGTCTGCTGCTCTTAAACCTTTT 619  
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Qy 800 CTTAATGAATAGCGCAACTTTTCAAAAGAGAGGTGATGATGTTCTTTTCTTTCTGCT 859  
Db 798 TTGGACGAAATCAACGCGTGTGTTTTCGCGCATGGAGCAAGTTGACCTTTCTTTTGCA 857  
Qy 860 GATGAAAGTACTTTAAATATAGTCATAAATACAAAATATCTGCAATATGATGTTAAA 919  
Db 858 TCAGAGAGTACTCTTAATTAATGTCATAGTTTATCTAATATCTTAAGTATGTCGAAA 917  
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Db 918 ACTTACTTCCCGGCTCTAATAGAGAGTTTACATGAAGAGGTTTATGTCACCAAGTT 977  
Qy 980 AATACTTGGTTTGTAAATTTACAAAGTAGATACCTATATCTGTACAGAGGTTTAGA 1039  
Db 978 AATACCTGGTTTGTAAAGTTTCTAGAAATAGATACITTTCTTTGTACAAAGGTGTGCC 1037  
Qy 1040 CAAGTAGGGTGTGATAGTATCAGTTCTATGAGCGGATGGAAGACGCTTTTGTCTTACAAG 1099  
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Qy 1100 AAAACCTTGGCCATGTTTCAACACTGAAAGAGCAATCTTTAGAGACAGCGCTTCGGTTAAC 1159  
Db 1098 AAGACTCTTGCATGTGCAACAGCGAGAGAAATCCCTCTGAGGATTCTATCATCAGTCAAT 1157  
Qy 1160 TTTTGGTTCCCTAAGATGAAGGACATGCTGATAGTACGCTGTTTGGGGTCTCTATTACC 1219  
Db 1158 TACTGGTTTCCCAAAATGAGGGATATGCTCATGTCACATTTATTCGACATTTCTTTGGAG 1217  
Qy 1220 AGCAAAAAGATGACAAGGAGTGAAGTCAATGTTTAAATCGTGACTTCGTTTACACAGTGT 1279  
Db 1218 ACTAGTAAAGAGCGCCAGAGAGTCTTAGTGTCCAGGATTTTCGTTTACAGTGTCT 1277  
Qy 1280 AATCATATCAGACATATCAAGCCAAAGCGTTAACTTTACAGAAACGTTATTAATCTTCGTG 1339  
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Qy 1400 GATAAAGCAATTTCTCAACCTTCTCAATGACTTTTCTTTGACAGACTAAGCTGGCTGCG 1459  
Db 1398 GACAAATCTTTGTTAACAATCCTTGTCCATGACGTTTACCTGTCATATAAGCTTGGCGTT 1457  
Qy 1460 CTTCAAGACGATATGATAGGGAAAGTTTCGGTGTCTTGGATTAAGACCACTTCTGAACCT 1519  
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 QY 1820 TTAGATGTTAGTCTGATGTGGCAGCACGAGTAATCGTTGCACTGGCCGCGAATAGAAGC 1879  
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 Db 1938 CAAGAGAGGCTTTCAAGAGTGTCTTGGTAGTTTACCTCAAGAGAAAGTTGAAGAACCGTCC 1997  
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 Db 1998 ATGAGGGTTCGATGCGCAGAGAGAGATTACAATAGCTGGTCTGCTGAGATCAATCCG 2057  
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 QY 2234 CTATGCAAGTCACTAAAGGATGAAGTCGGGTATGATTTCTGATTTCCAGGGAGAAAGTTGGT 2293  
 Db 2238 CTCGTCAAGATCTCAAGATACAGCTGCTATTGACCTTGAACCCGTCAAAAGTTTGA 2297  
 QY 2294 GTTTGGGATGCTACTTTGAAAAAGTGGCTCCTCAAACTCGCGGCCAAAGGTCAATGAG 2353  
 Db 2298 GTCTTGGATGTTGCATCTAGGAAGTGGTTAATCAAAACCAACCGGCCAAGATCATGATG 2357  
 QY 2354 GGAATGTCCTGGATTACAGGGGAAAATGTTTACTGCACTCTATCTTATGAGGAGAT 2413  
 Db 2358 GGTGTTGTTGAAACCCACCGGAGAGATATCATGTGGCGCTTTTGGAAATGATGAGCAG 2417  
 QY 2414 AGAATGTTGATCTGAGAGCGACTGAGAGGGTGGCTGATCATCTGATACAAATGGTATAT 2473  
 Db 2418 GGTGTGTGATCTCGATGATTGGAGNAGTAGTGTGAGCTGAGCTGAGTCTGTTGTTAT 2477  
 QY 2474 TCTGATATTCGAAAGTCTCAAAATCTGAGGAAACCAATGAGAGACGGTGAACCCCGAA 2533  
 Db 2478 TCCGACATGCGGAAACTCAGAACTCTGCGCAGACTGCTTCCGAAACCGGAGAACCGCATGC 2537  
 QY 2534 CTTACTGCAAGATGTTACTTGTGGATGGGCTGCTGTTGTGGAAAGTACAAAGGAGAT 2593  
 Db 2538 AGTAGCGCAAGGTTGTTCTTGTGGACGAGTTCGCGGCTGTGGGAAACCAAGAAAT 2597  
 QY 2594 TTTGAAAGATTTGATCTTGTATGAGGATTTGATCTTGTGTTCTTCCGAAAAACGAGCTGCT 2653

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 Db 2658 ATGATCAGAAGAGCTGCGAATTTCTCAGGATATTTGTGGCCCAAGAGCAACGTTAA 2717  
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 Db 2718 ACCGTTGATTTCTTTCATGATGAATTTTGGGAAAAAGCACACGCTGTGAGTTCAAGAGTTA 2777  
 QY 2765 TTTATTTGATGAGGTTGATGCTGCACACCGGTTGTGTTAACTTCTCTGTGCTTATCTCT 2824  
 Db 2778 TTTATTTGATGAGGTTGATGTTGCATCTGTTGTGTTAAATTTCTTGTGGCGATGTCA 2837  
 QY 2825 GGTTCGCATCGCATACATTTTACGGAGATACACAGCAGATTCCTTTTCAATTAACAGATT 2884  
 Db 2838 TTGTGGGAATTTGCATATGTTTACGGAGACACACAGCAGATTCATACATCAATAGATT 2897  
 QY 2885 CAGAAATTTCCGATATCCCAACATTTTGAAGAGCTGCAAGTGGATGAAGTTGAGATGAGG 2944  
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 Db 2958 AGAATCTACTCTCCGTTGTCAGCCGATGTCAACATTTCTGAACAGGAGATATGAGGCG 3017  
 QY 3005 GCGGTGACAAACCACTTCAACTGTCAACGATCGCTCATCTGAGATGATAGCGGTAAG 3064  
 Db 3018 TTTGTATGAGCACTCTTTCGGTTAAAGTCTGTTCGAGGAGATGTTGCGCGGAGCC 3077  
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 QY 3185 GGAGAAACCTTTGAAGATGCTGCTGCTGAGATTCACCGCAACTCCACTGACTCTGAT 3244  
 Db 3198 GCGGAGACATCTCTGATGTTTCACTAGTTAGTTAAACCCCTACACAGTCTCCATCT 3257  
 QY 3245 TCCAGTCTTCCCGCATGTTCTAGTCGCTCTGATGATGATGATGATGATGATGATGAT 3304  
 Db 3258 GCAGGAGACAGCCACATGTTTGGTCCGATTTGTCGCAAGGACACCTGTTGCTCAAGTAC 3317  
 QY 3305 TACACGATGTTAGATCCTTTAGTACAGATAATTTAGTGAATTTGTTCTTTTAAAGTCC 3364  
 Db 3318 TACACTGTTGTTATGATCCTTTAGTTAGTATCATTTAGAGATCTAGAGAAACTTACGTCG 3377  
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 Db 3378 TACTTGTAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3437  
 QY 3425 GTGTTCAAAAGGTCATATCTTTTGTGGCAACCTTAAATCAGGAGACTTTCCAGATCTA 3484  
 Db 3438 GTGTTCAAAAGTTCCTTCTTTTGTGAGCGCCAAAGACTGCTGATATTTCTGATGATG 3497  
 QY 3485 CAGTTCTTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3544  
 Db 3498 CAGTTTACTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3557  
 QY 3545 GTTACCATGAGGTTACGTGATATGATGATGATGATGATGATGATGATGATGATGATGAT 3604  
 Db 3558 GTTACCATGAGGTTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 3617  
 QY 3605 AAAAGTATTTCCGATGCAAGGAGGTTGAAACCAATGTCTAGAGCCAGTTTTTCGATCGCG 3664  
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Qy 3725 TTCAACGCACAGACCTGACCGGGACCGATTGCAATTCAGAGCACCGCATCTGTTGTAGTA 3784  
Db 3738 TTTAAACGCCCGAGTGTCTGGCATCATGATTTGAAATATCTGCATCTTTAGTTGTA 3797  
Qy 3785 GATAAGTTTTTGTATAGCTATTTTATTAAGAAAGAAAATACACAAAAATATTTGCTGGA 3844  
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Qy 4442 TCAATGTTTACCGATGGAAAAGGTATAAAAGGTGCTTTTGTGGAGACGATTCGGTTTTG 4501  
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Qy 4562 TTTGAGGCCAACTGTATAGAAAGAGGTACCGTTTACTTTTGTGGTAGATCATATACAC 4621  
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Db 4638 CACGACAGGATGCTATGTTGTAATTAACGATCCCTTAAAGTTGATCTCGAAACTTTGGTCT 4697  
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Db 4815 CATAAGACCCCTCCAGGTTTCGTTTGTATTAAGAAAGTCTGGTGAAGTATTTTGTCTGAT 4874  
Qy 4862 AAATTTTATTAGAACTTTTGTATTTTAAATGGCTTTAGTCTCAGAGATCTGTCAAAAT 4921  
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Qy 4922 TAGCGAGTTTCATTTGATCTTTTCGAAAACAGGATGATGATACTTTCCGGCATTTCAATAAGGT 4981  
Db 4935 CAATGAGTTTATCGACTGACAAAAATGGAGAGATCTTACCGTCCGATGTTTACCCCTGT 4994  
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Db 4995 AAAGAGTTTATGTGTTCCAAAGTTGATAAAATAATCGTTTCATGAGAAATGATCATTTGTC 5054  
Qy 5042 TGATGTAGATTTTACTTAAAGTGTTTAGTTTAAAGAAAGGTTATCTGTGCTTAGCTGA 5101  
Db 5055 AGAGGTGAACCTTCTTAAAGAGTTTAAAGCTTATTTGATAGTGGATACGTCTGTTTAGCCGG 5114  
Qy 5102 TTTGGTAGTGTCTGGGAGTGGAAATCTCCCGGATAACTGCCGTGGTGTGTCAGTGTTTG 5161  
Db 5115 TTTGGTGTCTCAGCGGCGAGTGGAACTTTCCTGACAAATTCAGAGAGGAGTGTGAGCGTGTG 5174  
Qy 5162 TATTGTAGATAAGAGATGAAAAGGAGTAAGGAAGCAACGCTGGGTGCGTATCACGCCCC 5221  
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Job time : 2474.02 secs

GenCore version 5.1.6  
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OM nucleic - nucleic search, using sw model

Run on: July 28, 2005, 08:29:34 ; Search time 517.084 Seconds  
(without alignments)  
15733.537 Million cell updates/sec

Title: US-09-551-494-5\_COPY\_534\_5505

Perfect score: 4972

Sequence: 1 ctaacaaggaattcctgag.....tgaagtaaccaatggctgtga 4972

Scoring table: IDENTITY\_NUC

Gapop 10.0 , Gapext 1.0

Searched: 1202784 seqs, 818138359 residues

Total number of hits satisfying chosen parameters: 2405568

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Listing first 45 summaries

Database : Issued Patents NA:\*

- 1: /cgn2\_6/ptodata/1/ina/5A\_COMB.seq:\*
- 2: /cgn2\_6/ptodata/1/ina/5B\_COMB.seq:\*
- 3: /cgn2\_6/ptodata/1/ina/6A\_COMB.seq:\*
- 4: /cgn2\_6/ptodata/1/ina/6B\_COMB.seq:\*
- 5: /cgn2\_6/ptodata/1/ina/PCTUS\_COMB.seq:\*
- 6: /cgn2\_6/ptodata/1/ina/backfiles1.seq:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

#### SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	2034.2	40.9	6395	3	US-09-259-741-1
2	2034.2	40.9	6395	3	US-09-037-751-1
3	2034.2	40.9	6395	3	US-09-466-422-1
4	2034.2	40.9	6395	4	US-09-962-527-1
5	2034.2	40.9	6439	3	US-09-259-741-2
6	2034.2	40.9	6439	3	US-09-037-751-2
7	2034.2	40.9	6439	3	US-09-466-422-2
8	2034.2	40.9	6439	4	US-09-962-527-2
9	2031	40.8	6395	4	US-08-687-559-2
10	2031	40.8	6395	4	US-09-401-415-2
11	2031	40.8	6425	3	US-09-259-741-3
12	2031	40.8	6425	3	US-09-037-751-3
13	2031	40.8	6425	3	US-09-466-422-3
14	2031	40.8	6425	4	US-09-962-527-3
15	2031	40.8	6446	3	US-09-259-741-5
16	2031	40.8	6446	3	US-09-037-751-5
17	2031	40.8	6446	3	US-09-466-422-5
18	2031	40.8	6446	4	US-09-962-527-5
19	2031	40.8	6475	3	US-09-259-741-4
20	2031	40.8	6475	3	US-09-037-751-4
21	2031	40.8	6475	3	US-09-466-422-4
22	2031	40.8	6475	4	US-09-962-527-4
23	2029.4	40.8	7685	3	US-09-502-710-22
24	2029.4	40.8	7685	3	US-09-502-710-25
25	2029.4	40.8	7685	3	US-09-502-711-22
26	2029.4	40.8	7685	3	US-09-502-711-25
27	2029.4	40.8	7685	4	US-09-565-616A-1

28	2029.4	40.8	7686	3	US-09-502-710-23
29	2029.4	40.8	7686	3	US-09-502-711-23
30	2029.4	40.8	7687	3	US-09-502-710-24
31	2029.4	40.8	7687	3	US-09-502-711-24
32	2029.4	40.8	7688	3	US-09-502-710-27
33	2029.4	40.8	7688	3	US-09-502-711-27
34	2026.2	40.8	7686	3	US-09-502-710-26
35	2026.2	40.8	7686	3	US-09-502-711-26
36	2026.2	40.8	7686	4	US-09-565-616A-2
37	2026.2	40.8	7926	3	US-09-500-554-1
38	2026.2	40.8	7926	3	US-09-726-648-1
39	2026.2	40.8	7926	4	US-10-119-330-1
40	693.2	13.9	1425	1	US-08-488-672-4
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42	286.4	5.8	2173	2	US-08-553-619B-6
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44	263.2	5.3	1825	1	US-08-336-724-1
45	260.8	5.2	807	4	US-09-565-616A-3

#### ALIGNMENTS

RESULT 1  
US-09-259-741-1  
; Sequence 1, Application US/09259741  
; Patent No. 6033895  
; GENERAL INFORMATION:  
; APPLICANT: GARGER, STEPHEN  
; APPLICANT: HOLTZ, R. BARRY  
; APPLICANT: MCCULLOCH, MICHAEL  
; APPLICANT: TURPEN, THOMAS  
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
; TITLE OF INVENTION: PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES FROM PLANT  
; TITLE OF INVENTION: SOURCES  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Howrey & Simon  
; STREET: 1299 Pennsylvania Avenue N.W.  
; CITY: Washington  
; STATE: DC  
; COUNTRY: USA  
; ZIP: 20004  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; COMPUTER: IBM Compatible  
; OPERATING SYSTEM: DOS  
; SOFTWARE: FASTSEQ for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/259,741  
; FILING DATE: February 25, 1999  
; CLASSIFICATION:  
; PRIORITY DATA:  
; APPLICATION NUMBER: 09/037,751  
; FILING DATE: March 10, 1998  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Halluin, Albert P  
; REGISTRATION NUMBER: 25,277  
; REFERENCE/DOCKET NUMBER: 00801.0140.US01  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 650-463-8100  
; TELEFAX: 650-463-8400  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 6395 base pairs  
; TYPE: nucleic acid  
; STRANDEDNESS: single  
; TOPOLOGY: unknown  
; MOLECULE TYPE: Genomic RNA  
; US-09-259-741-1

Query Match 40.9%; Score 2034.2; DB 3; Length 6395;

Best Local Similarity 44.4%; Pred. No. 0;  
Matches 2214; Conservative 957; Mismatches 1793; Indels 21; Gaps 4;

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Db	537	AAAACAGUCCCAACUUCCAAAGGAGCAUUGACAGAUACGAGAAUUCUGAGAC	596	Qy	1086	AAGATCAAGATCCAGATCTGTATGTACATGGAAGAGACAGGTTCTGTAGTGAATACACC	1145
Qy	66	GTCTGCTGCTCTAAAACTTTTCAGGATTGTGCAATACATCCGCCAGAGATAGTGGTAGA	125	Db	1617	GAGUACAGGGUGGCUAGUACUUAUGUGACCUUCCACGACAGAUUAGUGACUGAGUACAAG	1676
Db	597	GCUGUCUGACAAUAUCUUCCAGACAAUGCGCAUCAUCAGCGCAUGCAGCAUAUCAGGCAGA	656	Qy	1146	AAGTCTGAGGAGTTACCGCATCTAGATATCAAGAAGACTTAGAAGAGCTGAGCAAAATG	1205
Qy	126	AGATACCTGCTGCTGCGACAGTTTGTATGATATTTCTGTGCTAGTATTGGAGCTGGCG	185	Db	1677	GCUCUGUGACAUCCGCGCUUGACAUUAGGAAGAUGAAGAAACCGAAGUGAUG	1736
Db	657	GUGUAGCCAUUGCGCUACACAGCAUAUAGACAUACAGCCGAGUAGUUGCGGGCGGCA	716	Qy	1206	TACGACGCGTTATCAGAAATTTATCTCTTTAAAGGGTCTGATAAATTTGATATCGCGAAG	1265
Qy	186	TTAATATCTAAGATATACATATGTATGTATGACGCTTCCATTTTGGCAGAGCATTTATTA	245	Db	1737	UACAUGCACUUCAGAGUUAUCGGUUAAGGAGUCUCACAAUUCGAUUGUUGAUU	1796
Db	717	CUCUUGAGGAAAAUUGCCUAUCGUGCUUAGCCGUUCACUUCUCGAGAACCUUGCUU	776	Qy	1266	TTCAAAAGACATGTGCAAGGCTTTAGATTTTGTCTGATGTGGCAGCACGAGTAATCGTT	1325
Qy	246	CTAGACCAGACGGAGGTTACGCTTTAAATGAATAGGCGCAACTTTCAAAGAGAGGTGAT	305	Db	1797	UUUUCGAGAGUGCCAAUCUUGGAAGUUGACCCAAUGACCGCAGCGAAGGUUAUAGUC	1856
Db	777	CUUGAAGAUUCAUCGUCAAUUGGACAAAUCAACACGCGUGUUUUCGCGGAUGGAGAC	836	Qy	1326	GCAGTGGCCGAGAAATAGAACGGGTTTAACTCTTTACTTTTGTATGAAGCCAAACGAGGAGAT	1385
Qy	306	GATGTTCTTTTCTTTGCTGATGAAGTACTTTTAAATATATAGTCAATAATACAAAAT	365	Db	1857	CGCGUACUGAGCAUUGAGAGCGGUCGACUCACAUUUGAAACGACCUACUGAGGGCAU	1916
Db	837	AAGUUGACUUUUCUUUGCAUCAGAGAGUACUCUUAUUAUUGUAGUUAUUCUAAU	896	Qy	1386	GTGCTAAAGGCTCT-----TAAAGCACGCGGCTCTGAGGCCGTGGTATGTCTTTGAACCG	1439
Qy	366	ATCTTGTCAATATGATAGTTAAATCTTCTCTGCTCTAGTAGAAATAGTTTACTTTAAG	425	Db	1917	GUUGCGCUAGCUUUAACAGNAUCAAGAGAGGCUUCAGAGGUGCAUUGGUAGUUAUCUCA	1976
Db	897	AUUCUUAAGUUGUGCAAAAACUUAUCUCCGCGCUCUAUAGAGAGGUUAUACUAGAG	956	Qy	1440	ACATCCGAGAGAGGTGAACGCTAAATAAATTTTCTATTGCTGAGAAAAGGAGATTGCCTGTG	1499
Qy	426	GAATTTTTAGTCACTAGGTTAATPACTTTGGTTTGTAAATTTTACAAAGTAGTACCTAT	485	Db	1977	AGAGAAGUUGAAGAACCGUCCAUUGAAGGUUUGAUGGCCAGAGAGAGUUAACAUAUGCU	2036
Db	957	GAGUUUUUAGCACACAGUUUAUACUGGUUUUGAAGUUUUCUAGAAUAGAUACUUUU	1016	Qy	1500	TGTGACAGAAAGTCATGTTTGACGAATGCTTAACCTTAGACACACAGAGTTGGAGTCCCTC	1559
Qy	486	ATTCTGTACAAGAGTTTAGCAAGTAGGTTGTATAGTATGATCTATGAGGCGATG	545	Db	2037	GGUUCUUGUGAGAUCAUCCGAGUGCUUUAUUCUUAAGAACGAGGAGUAGAGUCUUUA	2096
Db	1017	CUUUUGUACAAAGUGUGGCCAUAAAAGUAGUAGUAGUAGCGAGUUUAUACUGCAAUG	1076	Qy	1560	AACGATTTCCATAAGGCTTCGCTGGTAGTGTGATTAACAAGCAAAATGCGTTGTGTC	1619
Qy	546	GAAGACGCTTTGCTTACAAGAAAACCTTGGCCATGTTTCAACACTGAAAGAGCAATCTTT	605	Db	2097	GAGCAUUUCUAUUGGCGACGGCAGAUUCGUUAUUCGUUAAGCAGAGUCUCUAGUUG	2156
Db	1077	GAAGACGCAUGGCAUUAACAAAAGACUCUUGCAUUGGCAACACGCGAGAGAUCCUCCU	1136	Qy	1620	TACATGGCTCACTCAAAAGTTCAACAAATGAAGAACTATGTGGACAGTTTGGCAGCTTCG	1679
Qy	606	AGAGACACGGCTTCGGTTAACTTTTGGTTCCCTAAGATGAAGACATGGTGATAGTACCG	665	Db	2157	UACACGGGUCGGAUUAAGUUCAGCAAAUGCAAAAACUUUAUCGAUAGCCUGGUAUCA	2216
Db	1137	GAGGAUUCAUCAUCAGUCAUAUACUGGUUUUCCCAAAUAGAGGAUUGUUAUCUGUACCA	1196	Qy	1680	TTGTCCGCCACTGTATCAATCTATGCAAGTCACTAAGGATGAAGTCGGGTATGATCT	1739
Qy	666	CTGTTTGAAGGTTCTATTACGAGCAAAAGATGACAGGAGTGAAGTCATTTGTTAATCGT	725	Db	2217	CUAUCGUCGCGUGGAAUUCUGCAAGAUCCUCAAGAUACAGCUGCUUUAUUGCCUU	2276
Db	1197	UUAUUGACAUUUUUUGGAGACUAGUAGAGGACGCGCAAGGAAGUUCUAGUGUCCAAG	1256	Qy	1740	GATTCAGGAGAGAAAGTTGGTGTGGGATGTCACTTTGAAAAGAGTGGCTCTCAAAACCT	1799
Qy	726	GACTTCGTTTACAGAGTCTTAATCATATCAGAACATATCAAGCAAAAGCGTTAACTTAC	785	Db	2277	GAAACCGUCAAAGUUUGGAGUCUUGGAGUUGCAUUAAGGAAGUUGUUAUACAACCA	2336
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Qy	846	GCTAGGTCGTAATGGGATGTAGATAAAGCAATCTTCAACCCCTGTCAATGACTTTCTTC	905	Db	2397	CUUUGGAAUUAUGAGACGAGGUGGUGGACAUUGCAUUGGAGAGAGAGAGUGUGUU	2456
Db	1377	GCAGGCGCGGAAGGGAUGGACAAAUUCUUUUAUCAAUCCUUGUCAUGCAUUGUUAC	1436	Qy	1920	TCATCTGATACAATGGTATATCTGTATTTGCAAGCTCCAAAATCTGAGGAAAACAATG	1979
Qy	906	TTGCAGACTAGCTGGCTGCGCTTCAAGACGATATAGTAATGGAAAAGTTTCGGTGTG	965	Db	2457	AGCUCUGAGUCUGUUGUUUAUCCGACAGUGCGGCAACUCAGACUCUCGCGCAGACUCUU	2516
Db	1437	CUGCAUAUAAGCUUGCGUUUAAGGAUGACUUAUGAUUAGCAAGUUUAUGUCUGGU	1496	Qy	1980	AGAGACGGTGAAACCCCAACGAACTTACTGCAAAAGATGGTATTTGTGGATGGGGTCCCTGGT	2039
Qy	966	GATAAGACCACTTCTGAATTTATTTGGGATGAGGTGGGCAAAATTTTGGAAAACGTTTTC	1025	Db	2517	CGAAAACGGAACCGCAUGUCAGUAGCGCAAGAGUUUUCUUGGAGCGGAGUUCGCGGC	2576
Db	1497	UCGAAAACGGUGGCGCAGCAUGUGUGGAGUAGAUUUCUGGCGGUUUGGGAACGCAUUU	1556	Qy	2040	TGTGGAAGTCAACAGAGAGATTTTGAAGATTTTCATCTTGTATGAGGATTTGATCTTGGTT	2099
Qy	1026	CCCACTATCAAGAGAGATTGGTGAGCAGGGAATTTCTGGATGTAAAGTGAGATGCTCTG	1085	Db	2577	UGUGGAAAAACCAAGAAAUUUUUUCCAGGUAUUUUUGAUGAAUUAUUUUUAAGUA	2636
Db				Qy	2100	CCTGGAACCAAGCTGCTGCTATGATCAGAAAGAGGCTAAATTCATCTGGACTGATAGA	2159
				Db	2637	CTUGGGAACGCGCGGGAUAUGNACAGAGAGCUGCGGAUUCUCCUACGGAUUAUUGUG	2696





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Db 4854 CUGUGAAGUUAUUGUCGUAAGAAUUCUUUUUAGAAGUUUUUAUAGAUGGCUUAGU 4913
Qy 4368 TCTCAGAGATACCTGCTCAAAATTTACGAGTTTCATTTGATCTTTTCGAAACAGGATGATAC 4427
Db 4914 UGUUAAAGGAAAGAGUAUUAUAGUUAUUGCAGCUCGUAUUAUUGGAGAGAAUUCU 4973
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Db 4974 ACCGUCGAGUUAUACCCCGUAAAGAGUUAUUGUUCUCCAAAGUUAUUAUUAUUGGU 5033
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Qy 4668 GCTGGGTGCGTATCACGCCCTGCTTGCAGAAAGAAATTTCTTTTAAAGCTAATCCCTAA 4727
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Db 5514 GAUCA 5518
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RESULT 2
US-09-037-751-1
; Sequence 1, Application US/09037751
; Patent No. 6037456
; GENERAL INFORMATION:
; APPLICANT: GARGER, STEPHEN
; APPLICANT: HOLTZ, R. BARRY
; APPLICANT: MCCULLOCH, MICHAEL
; APPLICANT: TURPEN, THOMAS
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND
; TITLE OF INVENTION: PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES
; TITLE OF INVENTION: FROM PLANT SOURCES
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Howrey & Simon
; STREET: 1299 Pennsylvania Avenue N.W.
; CITY: Washington
; STATE: DC
; COUNTRY: USA
; ZIP: 20004
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: FastSeq for Windows Version 2.0
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; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/037,751
; FILING DATE: 10-MAR-1998
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER:
; FILING DATE:
; ATTORNEY/AGENT INFORMATION:
; NAME: Halluin, Albert P
; REGISTRATION NUMBER: 25,277
; REFERENCE/DOCKET NUMBER: 00801.0140.999
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650-463-8109
; TELEFAX: 650-463-8400
; TELEX:
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 6395 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
; MOLECULE TYPE: Genomic RNA
US-09-037-751-1
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Query Match 40.9%; Score 2034.2; DB 3; Length 6395;
Best Local Similarity 44.4%; Pred. No. 0;
Matches 2214; Conservative 957; Mismatches 1793; Indels 21; Gaps 4;

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Db 657 GUGUAGCCAUUGCGUCACACAGCAUAUUAUGACUACCCAGCCGAGUAGUUGCGGCGCA 716
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Qy 366 ATCTTGCAATATGTAGTTAAATCTTACTTTCTGCTTCTAGTAGAAATAGTTTACTTTAAG 425
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Qy 486 ATTCTGTACAGAGTGTTAGCAAGTAGGTGTGATAGTATGATGTTCTATGAGCGCATG 545
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Qy 606 AGAGACACGGCTTCGGTTAACTTTTGTGTTCCCTTAAGATGAAGGACATGGTATAGTACCG 665
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Qy 666 CTGTTTGAGGGTCTTATTACCAGCAAAAGATGACAGGAGTGAAGTTCATTGTTAATCGT 725
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Db	1197	UUAUUCGACAUUUCUUGGAGACUAGUAAGAGGACGCGCAAGAGAGUUCUUGAGUCCAAAG	1256	Db	2277	GAAACCCGUCAAAAAGUUUGAGUGUUGAUUGUUGCAUCUAGGAAAGUGGUUAAUCAAACA	2336
Qy	726	GACTTCGTTTACACAGTCTTAATCATATCAGAACATATCAAGCCAAAGCGTTAACTTAC	785	Qy	1800	GCGGCCAAAGAGTTCATTCATGGGGAGTTGTCTCTGGATTATCAAGAGGGGAAAAATGTTTATGCA	1859
Db	1257	GAUUCUGUGUUUACAGUGUCUUAACCAUCCAGAACAUACACAGCGAAAGACUUAUACAUAC	1316	Db	2337	AGGCCCAAGAGUACUGAUGGGUGUUGUUGAAAAACCCAGCGAGAGAAUUAUUAUGUGGCG	2396
Qy	786	CAGAACGTTATATCTTTCTGGTGGAGTCTATAAGATCCCGGTGATATCAATCAATGGTGTACT	845	Qy	1860	CTTCTATCTTATGAAGAGAGATAGAATGGTACTGAGAGCGGACTGAGAGAGGCTGCTGTATA	1919
Db	1317	GCAAAUUGUUUUGCCUUGUGAUAUGUUCGAGCGGUAUUAUUAUAAACGUGUGACA	1376	Db	2397	CUUUGGAAUUAUGAUGAGCAGGUGUGUGAUGCAUGAUGGAGAGAGAGAGUGUGU	2456
Qy	846	GCTAGTCTGAATGGATAGATAAAGCAATCTTCAACCCCTTGTCAATGACTTCTTTC	905	Qy	1920	TCATCTGTATACATGCTATATCTCTGATATTGCAAAAGCTCCAAAATCTGAGGAAAAACAATG	1979
Db	1377	GCGAGUCCGAAUGGAGUGGACAAUUCUUGUUAUCAAUCCUUGUGCAUGACGUUUUAC	1436	Db	2457	AGCUCUGAGUCUUGUUGUUUCCGACAUCCGACAUCCGCGGCAACUCAGAAUCUCUGCGCAGACUGCUU	2516
Qy	906	TTGCGAGACTAAGCTGCTGCTTCAAGACGATATAGTAATGGGAAAGTTTCGCTGCTTG	965	Qy	1980	AGAGACGCTGAAACCCACAGAACCTTACTGCAAAAGATGGTACTTTGTGGATGGGTGCTGTG	2039
Db	1437	CUGCAUACUAGCUGGCCUUCUUAAGGAUAGCUUACUGAUGACGAAUUAUGUUGUUGUUGU	1496	Db	2517	CGAAACGAGAACCCGACUAGUCAGUAGCGCAAAAGUUGUUGUUGGACGAGUCCGGGC	2576
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Qy	1026	CCCCTATCAAGAGAGATTGTGACAGGAAATTTCTGGATGTAGTGAGAAATGCTCTG	1085	Qy	2100	CCTGGAACACAGCTGCTCTATGATCAGAAAGGGCTAATTCATCTCGACTGTATAAGA	2159
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Qy	1086	AGATCMAGATCCAGATCTGTATGTCACATGGAAGACAGGTTCTGTAGCTGAATACACC	1145	Qy	2160	GCCCAATGGACAATGTGAGAACGCTAGATTCACTTCTAATGCAT-----CCAAAA	2210
Db	1617	GAGUACAGGUGCCUGAUUAUUGUAGCCUCCACGACAGAUUAGUGACUGAGUACAAG	1676	Db	2697	GCCACGAGGACCAAGUUAACCGUUAACCGUUAUUCUUAUGAUAUUUGGAAAGACACA	2756
Qy	1146	AAATCTGAGGATTACCGCATCTAGATATCAAGAGGACTTAGAAGACCTGAGCAAAATG	1205	Qy	2211	CGCGATACACAGAGGCTTTTATGATGAAGGGTGTGCTGTGACACACCGGTTGTGTT	2270
Db	1677	GCCUCUGGACAUGCCUGGCUUGACAUUAGGAGAAUGAAGAAACGGAUGAUG	1736	Db	2757	CGCUCGACUUAACAAGGUAUUAUGAUGAAGGGUUGAUGUUGCAUUCUGUUGUGUU	2816
Qy	1206	TAGACGCGTTATCAGAAATATCTATCTTAAAGGGTGTGATAATTTGATATCGGAAG	1265	Qy	2271	AACTCTCTGCTGCTTATCTCTGTTGCGACATCGCATACATTTACGGAGATACACAGCAG	2330
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Qy	1266	TTCAAGACATGCAAGGCTTTAGATGTTAGTCTCTGATGTCGACGACAGTATCTGTT	1325	Qy	2331	ATTCTCTTCAATTAACAGAGTTTCAGAAATTTCCCGTATCCCAAAATTTTGAAGAGCTGCA	2390
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Qy	1326	GCAGTGGCGAGAAATAGAGCGGTTAACTCTTACTTTTGAAGCCAAACCGAGGAGAAAT	1385	Qy	2391	GTGGATGAAGTTGATGAGGAGGACCACTGAGATGCCAGGTCAGGTGATGTAATTTTTC	2450
Db	1857	GCGUACAGACMAUGAGAGCGGUGACUCUCACAUUUGAACGACCUACUGAGGCGAAU	1916	Db	2937	GUUGACGAGGUGGAGACACGAGAAACUACUCUCGUGUCCAGCGCAGGACCAUUAU	2996
Qy	1386	GTGGCTAAGGCTCT-----TAAAGCACGGGCTGTGAGCGCGTGTATGTTTGAACCG	1439	Qy	2451	CTACAATCGAAGTACGAAGGCGGTGACCACTTCACTGTAACAAGTCCGCTCTCA	2510
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Qy	1740	GATTTCCAGGAGAAAGTGTGGTGTGTTGGGATGTCACTTTTGAAAGAGTGGCTCTCAAACTT	1799	Qy	2811	GATTTGTTCTTTTAAAGTCTCTTCTTTTAAAGATGATATATGTTAGAAACGAGCTAGTAGA	2870
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RESULT 3
US-09-466-422-1
; Sequence 1, Application US/09466422
; Patent No. 6303779
; GENERAL INFORMATION:
; APPLICANT: GARGER, STEPHEN
; HOLTZ, R. BARRY
; MCCULLOCH, MICHAEL
; TURPEN, THOMAS
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND
; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES
; FROM PLANT SOURCES
;
; NUMBER OF SEQUENCES: 5
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Howrey & Simon
; STREET: 1299 Pennsylvania Avenue N.W.
; CITY: Washington
; STATE: DC
; COUNTRY: USA
; ZIP: 20004
;
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Diskette
; COMPUTER: IBM Compatible
; OPERATING SYSTEM: DOS
; SOFTWARE: PastSeq for Windows Version 2.0
;
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/09/466,422
; FILING DATE: 17-Dec-1999
; CLASSIFICATION: <Unknown>
;
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: 09/037,751
; FILING DATE: <Unknown>
; ATTORNEY/AGENT INFORMATION:
; NAME: Halluin, Albert P
; REGISTRATION NUMBER: 25,277
; REFERENCE/DOCKET NUMBER: 00801.0140.999
;
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 650-463-8109
; TELEFAX: 650-463-8400
; TELEX: <Unknown>
;
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 6395 base pairs
; TYPE: nucleic acid
; STRANDEDNESS: single
; TOPOLOGY: unknown
;
; MOLECULE TYPE: Genomic RNA
; SEQUENCE DESCRIPTION: SEQ ID NO: 1:
US-09-466-422-1

Query Match 40.9%; Score 2034.2; DB 3; Length 6395;
Best Local Similarity 44.4%; Pred. No. 0;
Matches 2214; Conservative 957; Mismatches 1793; Indels 21; Gaps 4;

QY 6 AAGTAAATTCCTGAGTTTCAAAGGAGGCTTTTAAACAGGTATGAGAAGCTTCCCAACGAA 65
DB 537 AAACAGUCGCCCAACUCCAAAGGAAGCAUUGACAGAUACGACGAGAAUUCUGAAGAC 596

QY 66 GTCTGCTGCTTAAACATTTTTCAGGATTGTGTAATCATCCGCACAGAGATAGTGGTAGA 125
DB 597 GCUCUGUCACAUAUACUCCAGCAAAUGGCAUCAUCAGCGCAUACAGGCGAGA 656

QY 126 AGATACGCTGTGCTGCACAGTTTGTATCATATTCCTGTGCAATGAGTTTGGAGCTGCG 185
DB 657 GUGUAGGCCAUUGCGCUACACAGCAUAUUGACAUACAGCCGAGAGUUCGGGCGGCA 716

QY 186 TTAATATCTAAGAATATACATGTATGTATTATCAGCTTCCATTTTGGCAGAGACATTATTA 245
DB 717 CUCUUGAGGAAAUGUCCAUACUGUCUACGCCGUUCCUUCUCCGAGAACCUUGUU 776

QY 246 CTAGACGACGAGGGTTTACGCTTAAATGAATAGCGCAACTTTCAAAGAGAGGTGAT 305
DB 777 CUUGAAGAUCAUACGCUAAUUGGACGAAAUCAACGCGUUGUUUUCGCGAUGGAGAC 835

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Db 4077 GGCCTGUGUUGUAGUGAGCUUACUAGGCAUUAUCUGGACAGUGUUGAUUCGAGACGAUUU 4136  
Qy 3588 CTTTCTTTTACTAGGAAACTCCAGAACAGATTCAAGAAATTTTCTCGGATCTCGACTCG 3647  
Db 4137 UGUUUUUCACAAGAAGACACACGCGGAGUUGAGGUAUUUCUUGGAGAUUCUGGACAGU 4196  
Qy 3648 CACGTTCTCTATGATGTGTAGAACTGGGATATTTCTTAAGTATGATAGTACAGAACGAG 3707  
Db 4197 CAUGGCGGAGUGUUGUGAGUGGAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4256  
Qy 3708 TTTTATTGCTGTAGATGATGAATATGGAAGATTTGGTCTCAATGATTTTGGCC 3767  
Db 4257 UUCACUGUGGAGUAGUUAUCAGAUUCUGGCGGAGAUUGGUGUUUUAAGACUUCUUGGA 4316  
Qy 3768 GAAGTGTGGAACAAGGCGACAGGAAACAACTTTTCAAGGATTAACATTTCTGCTGAATCAAG 3827  
Db 4317 GAAGUUGGAAACAAGGCAUAGAAGACCACTTCAAGGUAUUAUUAUUAUUAUUAUUAUUA 4376  
Qy 3828 ACATGTCGTGTATCAAAAGGAAACGCGTGTATGCTACTTTTCAATCGCAATATCTGTT 3887  
Db 4377 ACUGCAUCUGGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4436  
Qy 3888 ATAAATAGACCTGCTGTTGGTTCATGTTACCGATGGAAGAAAGTCAATAAGTCTTTT 3947  
Db 4437 AUCAUUGCGUAGUUGUUGCCUGGAGUUCUGGAGGAAUUAUUAUUAUUAUUAUUAUUAU 4496  
Qy 3948 TGTGAGACGATTCCTGTTGTTATTTTCCAAAGGTTTGGATTTCCCTGCATCTAGTCA 4007  
Db 4497 UCGGUGAGUAGUUGUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 4556  
Qy 4008 TGTGCTTAATCTCATGTGGAATTTTGGGCGCAACTGTATAGAAAGGATACGTTTACTTT 4067  
Db 4557 UCCGCGAAUUAUUGGAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 4616  
Qy 4068 TGTGTTAGATACATCATACATGATAGGAGCAATAGTATGATCTCTTTGAAG 4127  
Db 4617 UCGGGAAGAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4676  
Qy 4128 TTGATCTCAAACTCGGCGCAAAACATATCAAGGATTTATGATCATTAGAAAGTTAAGG 4187  
Db 4677 UGAUCUGGAAACUUGGUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4736  
Qy 4188 GTGCTCTTGTGCTATGCTGCTCGGAACTGCTGCTTAGGCTTTCCGAGCTG 4247  
Db 4737 AGGUCUUAUUGUAGUGUGUUGUUGUUGUUGUUGUUGUUGUUGUUGUUGUUGUUGUUG 4793  
Qy 4248 AACGACGATCAAGAGGTTTCAATAAACCGGATGATGCTGCTGCTTTTAAATGTT 4307  
Db 4794 GACGACGUGUAGUGGAGGUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 4853  
Qy 4308 GTTAAACAAATTTTGTGATAAATTTTATTTAGAACTTTGTTTAAATGCTCTTAG 4367  
Db 4854 CUGGUGAAGUUAUUGUUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4913  
Qy 4368 TCTCAGACATCTGTCAAAATTAAGCGATTCATTTGATCTTTTCAAAACAGATGATACT 4427  
Db 4914 UGUUAAGGAAAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4973  
Qy 4428 TCCGCAATTCATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 4487  
Db 4974 ACCGUGGUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 5033  
Qy 4488 TGTTAAGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 4547  
Db 5034 UCAUGAAGUAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5093  
Qy 4548 AGGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG 4607  
Db 5094 UGAUAGCUGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 5153  
Qy 4608 CCGTGTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTG 4667  
Db 5154 CAGAGGAGGUGUGAGCGUG 5213

Qy 4668 GCTGGTGGTATCAAGCCCTGCTTGCAGAAAGAAATTTTCTTTTAACTAATCCCTAA 4727  
Db 5214 UCUCGAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5273  
Qy 4728 TTATTTCAATAACATCCGAGGATGCTGAGAACCCGCTGGCAAGTGTAGTGAATATCAA 4787  
Db 5274 UUAUGCUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5333  
Qy 4788 AGGAGTGGCTATGGAAGAGGATAGTCTCTTTTATCTTTTGGAGTTCTGTTTCAATTTGTT 4847  
Db 5334 AAUUGAAGAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5393  
Qy 4848 AGTACATATAAATAATGTAAGAAAGTTTGAAGGAACTATTTTGAAGTGTGACAGCG 4907  
Db 5394 UGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5453  
Qy 4908 CTCGCCATTTGACCTCACTGAAAGGTTGTTTGAAGGTTGTTGAGGATGAAAGTCAATGCG 4967  
Db 5454 AGGGCCCAUGGAACTUACAGAGAAAGUUGUUGAUGUUAUUAUUAUUAUUAUUAU 5513  
Qy 4968 TGTGA 4972  
Db 5514 GAUCA 5518

## RESULT 4

US-09-962-527-1  
Sequence 1, Application US/09962527  
Patent No. 6740740

## GENERAL INFORMATION:

APPLICANT: GARGER, STEPHEN  
HOLTZ, R. BARRY  
MCCULLOCH, MICHAEL  
TURPEN, THOMAS

TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
FROM PLANT SOURCES

NUMBER OF SEQUENCES: 5

CORRESPONDENCE ADDRESS:

ADDRESSEE: Howrey & Simon  
STREET: 1299 Pennsylvania Avenue N.W.

CITY: Washington

STATE: DC

COUNTRY: USA

ZIP: 20004

COMPUTER READABLE FORM:

MEDIUM TYPE: Diskette

COMPUTER: IBM Compatible

OPERATING SYSTEM: DOS

SOFTWARE: FastSeq for Windows Version 2.0

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/09/962,527

FILING DATE: 24-Sep-2001

CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:

CLASSIFICATION: 09/037,751

FILING DATE: 10-march-1998

ATTORNEY/AGENT INFORMATION:

NAME: Halluin, Albert P

REGISTRATION NUMBER: 25,277

REFERENCE/DOCKET NUMBER: 00801.0140.999

TELECOMMUNICATION INFORMATION:

TELEPHONE: 650-463-8109

TELEFAX: 650-463-8400

TELEX: <Unknown>

INFORMATION FOR SEQ ID NO: 1:

SEQUENCE CHARACTERISTICS:

LENGTH: 6395 base pairs

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: unknown

MOLECULE TYPE: Genomic RNA

[illegible]











Db 5514 GAUCA 5518

RESULT 6  
US-09-037-751-2  
; Sequence 2, Application US/09037751  
; Patent No. 6037456  
; GENERAL INFORMATION:  
; APPLICANT: GARGER, STEPHEN  
; APPLICANT: HOLTZ, R. BARRY  
; APPLICANT: MCCULLOCH, MICHAEL  
; APPLICANT: TURPEN, THOMAS  
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
; TITLE OF INVENTION: PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
; TITLE OF INVENTION: FROM PLANT SOURCES  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; STREET: 1299 Pennsylvania Avenue N.W.  
; CITY: Washington  
; STATE: DC  
; COUNTRY: USA  
; ZIP: 20004  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; COMPUTER: IBM Compatible  
; OPERATING SYSTEM: DOS  
; SOFTWARE: FastSeq for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/037,751  
; FILING DATE: 10-MAR-1998  
; CLASSIFICATION:  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER:  
; FILING DATE:  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Halluin, Albert P  
; REGISTRATION NUMBER: 25,277  
; REFERENCE/DOCKET NUMBER: 00801.0140.999  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 650-463-8109  
; TELEFAX: 650-463-8400  
; TELEX:  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 6439 base pairs  
; TYPE: nucleic acid  
; STRANDEDNESS: single  
; TOPOLOGY: unknown  
; MOLECULE TYPE: Genomic RNA  
US-09-037-751-2

Query Match 40.9%; Score 2034.2; DB 3; Length 6439;  
Best Local Similarity 44.4%; Pred. No. 0;  
Matches 2214; Conservative 957; Mismatches 1793; Indels 21; Gaps 4;

QY 6 AAGGTAAATTCCTGAGTTTCAAGGGAGGCTTTTAAACAGGTATGACAGAGCTCCCAACGAA 65  
DB 537 AAAACAGUCCCAACUUCUCAAAGGAAGCAUUGACAGAUACGCGCAGAAAUUCUGAAGAC 596  
QY 66 GTCTGCTGCTTAAACCTTTTTCAGGATTGTCGAATACATCCCGCAGAGATAGTGTAGA 125  
DB 597 GCGUGUCUGUCACAAUUCUUCAGACAUUGCCGACAUACGCCGCAUUGCAGCAUACGAGCA 656  
QY 126 AGATACGCTGTGCTCTGCACAGTTTGTATGATATTCCTGTGATGAGTTTGGAGCTGGG 185  
DB 657 GUGUAGCCAUUGCGCUACACGCAUUAUGACAUACACGAGCGGAGUAGUUCGGGGCGCA 716  
QY 186 TTAATATCTAAGAAATATACATGTTATGATGAGCTTCCATTTTGGCAGAGATTATTA 245  
DB 717 CUCUUGAGGAGAAAUGUCCAUUGCGUACUUGCGCUUUCACUUCUCCGAGAACCGUCUU 776

QY 246 CTAGACCAGACGAGGTTTACGCTTAATGAATAAGCGCAACTTTTCAAAAGAGAAGGTGAT 305  
DB 777 CUUGAAGAUCAUACGUAUUGGACGAAAUCAACGCGUUGUUUUCGCGGAGUAGAC 836  
QY 306 GATGTTTCTTTTCTTTGCTGATGAAAGTACTTTTAAATTAATAGTACATAAATAACAAAAT 365  
DB 837 AAGUUGACCUUUUUUUUGCAUCAGAGAGUACUCUUUUUUUUUUUUUUUUUUUUUUUUUUUU 896  
QY 366 ATCTTGCAATTATAGTTAGTTTAAATCTTTCTCTCTAGTAGAATAGTTTACTTTAAG 425  
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QY 426 GAAATTTAGTCACTAGAGGTTTAACTTTGGTTTGTAAATTTTCAAAAGTAGATACCTAT 485  
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QY 486 ATTCTGTACAGAGTGTGTAGACAAAGTGGGTGTGATGATGATGATGATGATGATGATG 545  
DB 1017 CUUUUGUACAAAGGUGUGCGCCCAUAAAGUUGUAGUAGAGGAGCGUUUUUUUUUUUU 1076  
QY 546 GAAGACGCTTTTGTCTTACAGAAAACCTTTGGCCATGTTTCAACACTTGAAGAGCAATCTTT 605  
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QY 606 AGAGACGCGTTTCGGTTTAACTTTTGGTTTCCCTAAGATGAAGGACATGGTGTATGATCG 665  
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DB 1197 UUAUUCGCAUUCUUGGAGACUAGUAGAGGAGCGCGCAAGAGAGUUCUUGUGUCCAG 1256  
QY 726 GACTTCGTTTACACAGTCTTAATCATATCAGAAATATCAAGCCAAAGCGTTTAACTTAT 785  
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QY 786 CAGAACGATTTATCTTTCTGAGGTCTATAGATCCCGGTGATATCAATGGTGTACT 845  
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QY 846 GCTAGTCTGATGGGATGATGAAGCAATTTCTCAACCTTCTCTATGATGATTTCTTC 905  
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QY 906 TTGCAGACTTAAGTGGCTTCAAGACGATATAGTAATGGGAAAGTTTCGGTGTCTTG 965  
DB 1437 CUGCAUACUAGCUGUCCGUUUAAGAGUACUUAUAGUAGCAUUAUAGUAGUAGUAG 1496  
QY 966 GATAAGACCACTTCTGAACTTATTTGGGATGAGTGGGCAAAATTTTGGGAAACGTTTC 1025  
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QY 1026 CCCACTATCAAGAGAGATTTGGTGAAGAGAAATTTCTGGATGTAAGTGAAGATGCTCTG 1085  
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QY 1086 AAGATCAAGATCCAGATCTGTATCTCAGATGGAAGACAGAGTTCGTAGCTGAATACAC 1145  
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QY 1146 AAGTCTGAGGAGTTTACCGCATCTAGATATCAAGAGAGGCTTGAAGAGAGCTGAGCAA 1205  
DB 1677 GCUUCUGGACUAGCUGCGCUUAGCAUUAUAGAGAGAGAGAGAGAGAGAGAGAGAG 1736  
QY 1206 THAGAGCGGTTATCAGAAATTTCTATCTTAAAGGTGCTGATAATTTTCGATATCGGAG 1265  
DB 1737 UACAUAGCAUUCUAGAUUUCGUGUUAAGGAGUACUGACAAAUUCGAGUUGUAGU 1796  
QY 1266 TTCAAGACATGTCGAAGGCTTTTGTAGTGTAGTCTGTGATGTCGAGCAGCAGTAACT 1325  
DB 1797 UUUUCCAGUAGGCGCAUUCUUGGAGUUGAACCAUAGCAGCGCAGAGGAGUUAUAG 1856  
QY 1326 GCAGTGGCGGAGAAATAGAGAGCGGTTTAACTCTTACTTTTGTATAGCAACCGAGGAG 1385









Db 4737 AGGUCUCUUUGUGAUGUUUGUUUCUU---GAAACAAUUGUGCGUAUAACACACAGUUG 4793  
Qy 4248 AACGACGCTATCAAGAGGTTTCATAAAACCGCGATTGATGTTTCTGTTTAAATTTGT 4307  
Db 4794 GACGACGCUAUGGAGGUUAUAAGACCGCCGCCUCCAGGUGUUUGUUUAUAAAGU 4853  
Qy 4308 GTTAAACAAATTTTGTGTGATAAATTTTATTAGAACTTTGTTTAAATGGCTGTAG 4367  
Db 4854 CUGUGAAGUUAUUGUCUGAUAAGUUUUUAAGAAUUGUUUAUAGAGGCGUUAU 4913  
Qy 4368 TCTCAGAGACTCTCAAAATTTAGCGAGTTTCATTGATCTTTTCGAAACAGGATGATACT 4427  
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Qy 4488 TGTAAAGATGATGCTCTTCGTAGTAGATTTACTTTAAAGGTGTTAAGTTAGTTAAGAA 4547  
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Qy 4548 AGGTATGTGCTTGTAGCTGATTTGGTAGTCTCTGGGAGTGGAACTCTCCCGGATACTG 4607  
Db 5094 UGGAUACGUCUUUAGCGGUUUGUGUGUCCGCGGAGUGGAAUUGCCUGACAAUUG 5153  
Qy 4608 CCGTGGTGTGTCAGTGTGTTTATTTAGTAAAGATGAAAGAGGATGAAGGAAAGCAAC 4667  
Db 5154 CAGAGGAGUGGAGGUGUGUGUGUGGACAAAGAGGUAAGGAGCGGAGGCGCAC 5213  
Qy 4668 GCTGGTGTGATACCGCCCTGCTGTTGCAAAAGAAATTTCTTTTAAAGCTAATCCCTAA 4727  
Db 5214 UCUGGAAUUAUACACACAGCAGCGUCAAAGAAAGAAUUAUUGUUAAGGUGUCCCAA 5273  
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Db 5274 UUAUGCUAUAACCCAGGACGCGAUGAANAACGUGGCAAGUUUUGUAUAUUAUG 5333  
Qy 4788 AGGAGTGTGTATGGAAGAGGATATGTCCTTTTATCTTTTGGAGTTCGTTTCAATTTGT 4847  
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Qy 4848 AGTACATAAATAATGTAAGAAAGTTTTCAGGGAAGCTATTTTGTGTGACAGAGCG 4907  
Db 5394 UGUUUAAGAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 5453  
Qy 4908 CTGCGCAATGAACCTCACTGAAAGGTTTGTGAGGAGTTCTGTGATGAAGTACCAATGGC 4967  
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Qy 4968 TGTGA 4972  
Db 5514 GAUCA 5518

RESULT 8  
US-09-962-527-2  
; Sequence 2, Application US/09962527  
; Patent No. 6740740  
; GENERAL INFORMATION:  
; APPLICANT: GARGER, STEPHEN  
; HOLTZ, R. BARRY  
; McCULLOCH, MICHAEL  
; TURPEN, THOMAS  
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
; FROM PLANT SOURCES  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Howrey & Simon  
; STREET: 1299 Pennsylvania Avenue N.W.  
; CITY: Washington  
; STATE: DC

COUNTRY: USA  
ZIP: 20004  
COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS  
SOFTWARE: FastSeq for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/09/962,527  
FILING DATE: 24-Sep-2001  
CLASSIFICATION: <Unknown>  
PRIOR APPLICATION DATA:  
APPLICATION NUMBER: 09/037,751  
FILING DATE: 10-march-1998  
ATTORNEY/AGENT INFORMATION:  
NAME: Halluin, Albert P  
REGISTRATION NUMBER: 25,277  
REFERENCE/DOCKET NUMBER: 00801.0140.999  
TELECOMMUNICATION INFORMATION:  
TELEPHONE: 650-463-8109  
TELEFAX: 650-463-8400  
TELEX: <Unknown>  
INFORMATION FOR SEQ ID NO: 2:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 6439 base pairs  
TYPE: nucleic acid  
STRANDEDNESS: single  
TOPOLOGY: unknown  
MOLECULE TYPE: Genomic RNA  
SEQUENCE DESCRIPTION: SEQ ID NO: 2:  
US-09-962-527-2  
Query Match 40.9%; Score 2034.2; DB 4; Length 6439;  
Best Local Similarity 44.4%; Pred. No. 0;  
Matches 2214; Conservative 957; Mismatches 1793; Indels 21; Gaps 4;  
Qy 6 AAGTAAATTCCTGAGTTTCAAGGGAGGCTTTTAAACAGGTATGACAGAGCTCCCAACGAA 65  
Db 537 AAAACAGUCCCAACUCCAAAGGAAGCAUUAUGACAGAUACGAGAAUUCUGAGAC 596  
Qy 66 GTCTGCTGCTTAAACTTTTTCAGGATTTGTGGAATACATCCGCCAGAGAAATAGTGGTGA 125  
Db 597 GCUGUCUGACAAUUAUCCAGACAAUGCGCAUCAGCCGAGCAGCAUACAGGCGAGA 656  
Qy 126 AGATACGCTGTGCTCGACAGTTTGTATGATTAATTCCTGTGATGATGTTTGGAGCTCG 185  
Db 657 GUGUAGCCAUUGCGUACACAGCAUAUAGCAUACAGCCGAGUAGUUCGGGCGGCA 716  
Qy 186 TTAATATCTAAGATATACATGATGTTTATGACGCTTCCATTTTGGCAGAGCATTTATTA 245  
Db 717 CUUUGAGAAAUAUUGCCAUACGUGCUUUGCCGUUUCACUUCUCCGAGAACUGCUU 776  
Qy 246 CTAGACCAGACGAGGTTTACGCTTAAATGAAATAGCGCAACTTTTCAAAGAGAGGTTGAT 305  
Db 777 CUUGAAGUUAUACGUCUUAUUGGACGAAUACAAACGCGUUAUUCGCGGAGGAGAC 836  
Qy 306 GATGTTCTTTTCTTCTGATGAAAGTACTTTAAATATATAGTCAATAACAAAT 365  
Db 837 AAGUUGACUUUUCUUUGCAUCAGAGAGUACUUAUUAUUAUUGUUAUUAUUAUUAUUA 896  
Qy 366 ATCTTGCATTTAGTAAATCTTACTTTCTCTCTAGTAGAATAGTTTACTTTTAAAG 425  
Db 897 AUUCUUAAGUUGUGGCAAAACUUAUUCGCGCCUUAUUAAGAGGUAUUAUUAAGAG 956  
Qy 426 GAAATTTTGTAGTACTAGGTTTAAATCTTGTGTTTGTAAATTTTAAAGTAGATACCTAT 485  
Db 957 GAGUUUUAUUGACACAGAUUAUACCUUGGUUUUUAAGUUUUAUUAUUAUUAUUAUUA 1016  
Qy 486 ATTCTGTACAGAGTGTTAGACAGAGTGGGTGATAGTGTCTCTATGAGCGGATG 545  
Db 1017 CUUUUGUACAAAGGUGUGGCGCCAUAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 1076  
Qy 546 GAAGACGCTTTTGTCTTACAAGAAAACCTTGGCCATGTTTCAACACTGAAGAGCAATCTTT 605









QY 1326 GCAGTGGCCGAGATAGAGCGGTTTAACTCTTACTTTTGTATGATACCCAAACGAGGAGAT 1385  
Db 1857 GCGGTGATGAGCAATGAGAGCGGCTGACTCTCAATTTGAAACGACCTACTGAGCGGAAT 1916  
QY 1386 GTGGCTAAGGCTCT-----TAAAGACACGCGCTGAGGCGGTGATGATCTTTGAAACG 1439  
Db 1917 GTTGGCTAGCTTTACAGGATCMAGAGAGGCTTCAGAGGTGCTTTGGTAGTTACCTCA 1976  
QY 1440 ACATCCGAGAGGTGAACGTAAATATTTCTATTGCTGAGAAAGGAGATTTGCTGTG 1499  
Db 1977 AGAGAAAGTTGAAGAACCGTCCATGAAGGTTTCGATGGCCAGAGGAGAGTTACAATTAGCT 2036  
QY 1500 TGTGAGAAAGTCATGGTTTGACGATGCTAACTTAGAGCACCAGGAGTTGAGTCCCTC 1559  
Db 2037 GGTCTTGTGAGATCATCCGAGTCATCCGAGTCGCTATTCTAAGAAACGAGAGATAGAGTCTTTA 2096  
QY 1560 AACGATTTCCATAAGGCTTGGGTGATAGTGTGATTACAAAGCAAAATGGCATCGGTTGTC 1619  
Db 2097 GAGCAGTTTCATATGGCAACGCGAGATTCGTTAATTCGTAAGCAGATGAGCTCGATTGTG 2156  
QY 1620 TACACTGGCTCACTCAAAAGTTCAACAAATGAAGAACTATGTGACAGTTTGGCAGCTTCG 1679  
Db 2157 TACACGGTCCGATTAAGAGTTTCAAGAAATGAAGAACTTTATCGATAGCTGCTAGCATCA 2216  
QY 1680 TTGTCGCCCACTGTATCAAACTATGCAAGTCACTAAGAGTAGAGTCGGGTATGATTC 1739  
Db 2217 CTATCTGCTGGGTGTCGAATCTCGTCAAGATCTCTCAAGATACAGCTGCTATTGACCTT 2276  
QY 1740 GATTCAGGAGAGAAAGTTGGTGTGGGATGTGACTTTGAAAGAGTGCTCTCAACCT 1799  
Db 2277 GAAACCGTCAAAAGTTTGGAGTCTTGGATGTGCACTAGAAAGTGGTTAATCAACCA 2336  
QY 1800 CGCGCAAAAGTCAITTCATGGGGAGTTGCTCTGGATTACAAGGGGAAATGTTTACTGCA 1859  
Db 2337 ACGGCAAGAGTCATGATGGGTGTTGTTGAAACCCACGCGAGAGTATCATGTGGCG 2396  
QY 1860 CTTCTATCTTATGAAGAGATAGAAATGCTGACTGAGACGCACTGGAGAGGTTGCTGTA 1919  
Db 2397 CTTTGGAAATATGATGACAGGGGTGTGGTGACATGCGATGATGGAGAGAGTAGCTGTC 2456  
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RESULT 10  
US-09-401-415-2  
; Sequence 2, Application US/09401415  
; Patent No. 6503732  
; GENERAL INFORMATION:  
; APPLICANT: THE SCRIPPS RESEARCH INSTITUTE  
; TITLE OF INVENTION: METHOD FOR USING TOBACCO MOSAIC VIRUS TO  
; OVERPRODUCE PEPTIDES AND PROTEINS  
; NUMBER OF SEQUENCES: 30  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Spensley Horn Juntas & Lubitz  
; STREET: 1880 Century Park East, Suite 500  
; CITY: Los Angeles  
; STATE: California  
; COUNTRY: USA  
; ZIP: 90067  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Floppy disk  
; COMPUTER: IBM PC compatible  
; OPERATING SYSTEM: PC-DOS/MS-DOS  
; SOFTWARE: Patent In Release #1.0, Version #1.25  
; CURRENT APPLICATION NUMBER: US/09/401,415  
; FILING DATE: 21-Sep-1999  
; CLASSIFICATION: <Unknown>  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: PCT/US95/01467  
; FILING DATE: <Unknown>  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Bostich, June M.  
; REGISTRATION NUMBER: 31,238  
; REFERENCE/DOCKET NUMBER: PD-4074  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: (619) 455-5100  
; TELEFAX: (619) 455-5110  
; INFORMATION FOR SEQ ID NO: 2:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 6395 base pairs  
; TYPE: nucleic acid  
; STRANDEDNESS: single  
; TOPOLOGY: linear  
; MOLECULE TYPE: DNA (genomic)





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RESULT 13  
 US-09-466-422-3  
 ; Sequence 3, Application US/09466422  
 ; Patent No. 6303779  
 ; GENERAL INFORMATION:  
 ; APPLICANT: GARGER, STEPHEN  
 ; HOLTZ, R. BARRY  
 ; MCCULLOCH, MICHAEL  
 ; TURPEN, THOMAS  
 ; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
 ; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
 ; FROM PLANT SOURCES  
 ; NUMBER OF SEQUENCES: 5  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESS: Howrey & Simon  
 ; STREET: 1299 Pennsylvania Avenue N.W.  
 ; CITY: Washington  
 ; STATE: DC  
 ; COUNTRY: USA  
 ; ZIP: 20004  
 ; COMPUTER READABLE FORM:  
 ; MEDIUM TYPE: Diskette  
 ; COMPUTER: IBM Compatible  
 ; OPERATING SYSTEM: DOS  
 ; SOFTWARE: FASTSEQ for Windows Version 2.0  
 ; CURRENT APPLICATION DATA:  
 ; APPLICATION NUMBER: US/09/466,422  
 ; FILING DATE: 17-Dec-1999  
 ; CLASSIFICATION: <Unknown>  
 ; PRIOR APPLICATION DATA:  
 ; APPLICATION NUMBER: 09/037,751  
 ; FILING DATE: <Unknown>  
 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Halluin, Albert P  
 ; REGISTRATION NUMBER: 25,277  
 ; REFERENCE/DOCKET NUMBER: 00801.0140.999  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: 650-463-8109  
 ; TELEFAX: 650-463-8400





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RESULT 14
US-09-962-527-3
; Sequence 3, Application US/09962527
; Patent No. 6740740
; GENERAL INFORMATION:
; APPLICANT: GARGER, STEPHEN
; HOLTZ, R. BARRY
; MCCULLOCH, MICHAEL
; TURPEN, THOMAS
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND
; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES
; FROM PLANT SOURCES
; NUMBER OF SEQUENCES: 5
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;;
;; CORRESPONDENCE ADDRESS:
;; ADDRESSEE: Howrey & Simon
;; STREET: 1299 Pennsylvania Avenue N.W.
;; CITY: Washington
;; STATE: DC
;; COUNTRY: USA
;; ZIP: 20004
;; COMPUTER READABLE FORM:
;; MEDIUM TYPE: Diskette
;; COMPUTER: IBM Compatible
;; OPERATING SYSTEM: DOS
;; SOFTWARE: FastSeq for Windows Version 2.0
;; CURRENT APPLICATION DATA:
;; APPLICATION NUMBER: US/09/962,527
;; FILING DATE: 24-Sep-2001
;; CLASSIFICATION: <Unknown>
;; PRIOR APPLICATION DATA:
;; APPLICATION NUMBER: 09/037,751
;; FILING DATE: 10-march-1998
;; ATTORNEY/AGENT INFORMATION:
;; NAME: Halluin, Albert P
;; REGISTRATION NUMBER: 25,277
;; REFERENCE/DOCKET NUMBER: 00801.0140.999
;; TELECOMMUNICATION INFORMATION:
;; TELEPHONE: 650-463-8109
;; TELEFAX: 650-463-8400
;; TELEX: <Unknown>
;; INFORMATION FOR SEQ ID NO: 3:
;; SEQUENCE CHARACTERISTICS:
;; LENGTH: 6425 base pairs
;; TYPE: nucleic acid
;; STRANDEDNESS: single
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US-09-962-527-3
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Best Local Similarity 44.4%; Pred. No. 0;
Matches 2212; Conservative 957; Mismatches 1795; Indels 21; Gaps 4;

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5514 GAUCA 5518

Search completed: July 28, 2005, 09:02:44  
Job time : 540.084 secs



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OM nucleic - nucleic search, using sw model

Run on: July 28, 2005, 08:33:34 ; Search time 1883.98 Seconds

(without alignments)  
17081.170 Million cell updates/sec

Title: US-09-551-494-5\_COPY\_534\_5505

Perfect score: 4972

Sequence: 1 ctaacaggaattctctgag.....tgaagtaacaaatgggtgtga 4972

Scoring table: IDENTITY NUC

Gapop 10.0 , Gapext 1.0

Searched: 7287783 seqs, 3236178273 residues

Total number of hits satisfying chosen parameters: 14575566

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications NA:\*\*

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	4972	100.0	6355	15	US-10-321-434-7
2	2034.2	40.9	6395	10	US-09-962-527-1
3	2034.2	40.9	6395	19	US-10-828-029-1
4	2034.2	40.9	6439	10	US-09-962-527-2
5	2034.2	40.9	6439	19	US-10-828-029-2
6	2031	40.8	6395	17	US-10-338-592-2
7	2031	40.8	6425	10	US-09-962-527-3

Sequence 7, Appli  
Sequence 1, Appli  
Sequence 1, Appli  
Sequence 2, Appli  
Sequence 2, Appli  
Sequence 3, Appli

8	2031	40.8	6425	19	US-10-828-029-3	Sequence 3, Appli
9	2031	40.8	6446	10	US-09-962-527-5	Sequence 5, Appli
10	2031	40.8	6446	19	US-10-828-029-5	Sequence 5, Appli
11	2031	40.8	6475	10	US-09-962-527-4	Sequence 4, Appli
12	2031	40.8	6475	19	US-10-828-029-4	Sequence 4, Appli
13	2031	40.8	10600	16	US-10-356-708-1	Sequence 1, Appli
14	2031	40.8	10600	19	US-10-280-913A-1	Sequence 1, Appli
15	2031	40.8	10600	19	US-10-684-134-1	Sequence 1, Appli
16	2031	40.8	10600	19	US-10-637-758-1	Sequence 1, Appli
17	2031	40.8	10624	16	US-10-356-708-2	Sequence 2, Appli
18	2031	40.8	10624	19	US-10-280-913A-2	Sequence 2, Appli
19	2031	40.8	10624	19	US-10-684-134-2	Sequence 2, Appli
20	2031	40.8	10624	19	US-10-637-758-2	Sequence 2, Appli
21	2031	40.8	11222	19	US-10-679-620-73	Sequence 73, Appli
22	2031	40.8	11641	9	US-09-993-059-33	Sequence 33, Appli
23	2031	40.8	11641	15	US-10-103-327-33	Sequence 33, Appli
24	2031	40.8	11641	18	US-10-684-300-13	Sequence 13, Appli
25	2031	40.8	11641	18	US-10-684-349-13	Sequence 13, Appli
26	2031	40.8	11641	20	US-10-851-388-33	Sequence 33, Appli
27	2031	40.8	11641	22	US-10-984-389-33	Sequence 33, Appli
28	2029.4	40.8	7685	9	US-09-949-317-22	Sequence 22, Appli
29	2029.4	40.8	7685	9	US-09-949-317-25	Sequence 25, Appli
30	2029.4	40.8	7685	9	US-09-949-316-22	Sequence 22, Appli
31	2029.4	40.8	7685	9	US-09-949-316-25	Sequence 25, Appli
32	2029.4	40.8	7685	14	US-10-200-051-22	Sequence 22, Appli
33	2029.4	40.8	7685	14	US-10-200-051-25	Sequence 25, Appli
34	2029.4	40.8	7686	9	US-09-949-317-23	Sequence 23, Appli
35	2029.4	40.8	7686	9	US-09-949-316-23	Sequence 23, Appli
36	2029.4	40.8	7686	14	US-10-200-051-23	Sequence 23, Appli
37	2029.4	40.8	7687	9	US-09-949-317-24	Sequence 24, Appli
38	2029.4	40.8	7687	9	US-09-949-316-24	Sequence 24, Appli
39	2029.4	40.8	7687	14	US-10-200-051-24	Sequence 24, Appli
40	2029.4	40.8	7688	9	US-09-949-317-27	Sequence 27, Appli
41	2029.4	40.8	7688	9	US-09-949-316-27	Sequence 27, Appli
42	2029.4	40.8	7688	14	US-10-200-051-27	Sequence 27, Appli
43	2029.4	40.8	10132	9	US-09-978-199-3	Sequence 3, Appli
44	2027.8	40.8	10607	16	US-10-098-155-1	Sequence 1, Appli
45	2027.8	40.8	10631	16	US-10-098-155-2	Sequence 2, Appli

ALIGNMENTS

RESULT 1

US-10-321-434-7  
; Sequence 7, Application US/10321434  
; Publication No. US20030135882A1  
; GENERAL INFORMATION:  
; APPLICANT: Metzlaff, Michael  
; APPLICANT: Meulewater, Frank  
; APPLICANT: Gossel, Veronique  
; APPLICANT: Fach, Ina  
; TITLE OF INVENTION: Improved methods and means for delivering inhibitory RNA to plants  
; TITLE OF INVENTION: applications thereof  
; FILE REFERENCE: FROMOD  
; CURRENT APPLICATION NUMBER: US/10/321.434  
; CURRENT FILING DATE: 2002-12-18  
; NUMBER OF SEQ ID NOS: 18  
; SOFTWARE: PatentIn version 3.0  
; SEQ ID NO 7  
; LENGTH: 6355  
; TYPE: DNA  
; ORGANISM: Artificial  
; FEATURE:  
; OTHER INFORMATION: cDNA sequence of the genome of TMV-U2  
US-10-321-434-7

Query Match 100.0%; Score 4972; DB 15; Length 6355;  
Best Local Similarity 100.0%; Pred. No. 0;  
Matches 4972; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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Db 2634 CTGAAAACAGCTGCTGCTATGATCAGAAAGAGGCTAAATTCATCTGGACTGATAAGAG 2693  
Qy 2161 CCACAAATGGCAATGTGAGAAACGGTAGATTCACCTTCTAATGCAATCCAAAACCGCGATCAC 2220  
Db 2694 CCACAAATGGCAATGTGAGAAACGGTAGATTCACCTTCTAATGCAATCCAAAACCGCGATCAC 2753



2221 QY ACAAGAGGCTTTTATTGATGAAGGTTGATGCTGCACACCGGTTGTGTAACTTCTCTGG 2280  
 2754 Db ACAAGAGGCTTTTATTGATGAAGGTTGATGCTGCACACCGGTTGTGTAACTTCTCTGG 2813  
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 2934 Db TTGAGATGAGGAGGACACACTGAGATGCCAGGTGATGTGAATTTTTCCTACAATCGA 2993  
 2461 QY AGTACGAAGGAGCGGTGACACACTTCACTGTACAAACGATCGGTCTCATCTGAGATGA 2520  
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 3054 Db TAGGCGGTAAAGGAGTAAACAGTGTTCCTAAACCCACTTAAAGGGAATTTGTAACTT 3113  
 2581 QY TCACTCAGGCTGATAAAATTTGAGTTAGAGGAGAGGGCTATAAGAAATGTGAACACCGTTC 2640  
 3114 Db TCACTCAGGCTGATAAAATTTGAGTTAGAGGAGAGGGCTATAAGAAATGTGAACACCGTTC 3173  
 2641 QY ATGAGATCCAAGGAGAAACCTTTTGAAGATGTGTGCTGTGTCAGATTGAACGGCAACTCCAC 2700  
 3174 Db ATGAGATCCAAGGAGAAACCTTTTGAAGATGTGTGCTGTGTCAGATTGAACGGCAACTCCAC 3233  
 2701 QY TGAAGTCTGATTTCCAGTCTTCCCGCATGTTCTAGTCCGCTCTGACTAGACACACAAAGA 2760  
 3234 Db TGAAGTCTGATTTCCAGTCTTCCCGCATGTTCTAGTCCGCTCTGACTAGACACACAAAGA 3293  
 2761 QY GCTTTCAAAATTAACACCGTAGTGTAGATCTTTTGTAGTACAGATAAATTTAGTGTCTT 2820  
 3294 Db GCTTTCAAAATTAACACCGTAGTGTAGATCTTTTGTAGTACAGATAAATTTAGTGTCTT 3353  
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 3354 Db CTTTAAAGTCTCTTTTGAAGATGTATATGTTAGAGAGGAGTGTAGATGAATTAAC 3413  
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 3474 Db TTCCAGATCTACAGTCTTATTAAGATGATGCTCTCCCTGCTAATAGTACTATATTAACA 3533  
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 4074 Db CAGAGCTTCAAGAGTTGCTCTCGAGGCAATTTGATTTCTAAGAAATTTCTTTTCTTACTA 4133  
 3601 QY GGAAAACTCCAGAACAGATTTCAAGAAATTTTCTCGATCTCGACTCGCAGCTTCTATGG 3660  
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 4081 QY TCATACACCATGATAGAGGAGCAATAGTATTAATGATCTTTTGAAGTTCATCTCCAAAC 4140  
 4614 Db TCATACACCATGATAGAGGAGCAATAGTATTAATGATCTTTTGAAGTTCATCTCCAAAC 4673  
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 4854 Db TGTGCTGATAAATTTTATTTTATTTTGAAGCTTTGTTTTTAAATGCTTTTAAACAAATTTT 4913  
 4381 QY GTCAAAATTTAGCGAGTTCAATTTGATCTTTTCAAAACGAGATGATATTTCCGGCATTCATG 4440

Db 4914 GTCAAAATTACGAGTTCAATTGATCTTTTGGAAACAGGATGAGATACTTCCGGCATTCATG 4973  
Qy 4441 ACTAAGGTCAGAGTGTTAGAAATACGACTGTGCAAGATTATGGCTGTGTTAAGAAATGAT 4500  
Db 4974 ACTAAGGTCAGAGTGTTAGAAATACGACTGTGCAAGATTATGGCTGTGTTAAGAAATGAT 5033  
Qy 4501 AGTCTTTCTGATGTAGATTTACTTAAAGTGCTTAAAGTTAGTTAGTTAAGAAAGGTATGTGTC 4560  
Db 5034 AGTCTTTCTGATGTAGATTTACTTAAAGTGCTTAAAGTTAGTTAGTTAAGAAAGGTATGTGTC 5093  
Qy 4561 TTAGCTGATTTGGTAGTGTCTGGGAGTGGAAATCTCCCGATAACTGCGGTGGTGGTGC 4620  
Db 5094 TTAGCTGATTTGGTAGTGTCTGGGAGTGGAAATCTCCCGATAACTGCGGTGGTGGTGC 5153  
Qy 4621 AGTGTGTTGTATGTAGATAAGAGAAATGAAAGAGTAGTAAGAAAGCAACGCTGGGTGGTAT 4680  
Db 5154 AGTGTGTTGTATGTAGATAAGAGAAATGAAAGAGTAGTAAGAAAGCAACGCTGGGTGGTAT 5213  
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Db 5214 CACGCCCTCTGTCGAAAGAAATTTTCTTTTAAAGCTTAATCCCTTAATTATCAATAACA 5273  
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Db 5274 TCCGAGGATGCTGAGAACACCGCTGGCAAGTGTAGTGAATATCAAGAGGAGTGGCTATG 5333  
Qy 4801 GAAGAAGGATACTGTCCTTTATCTTTGGAGTTCGTTTCAATTTGTGTAGTACATAAAAT 4860  
Db 5334 GAAGAAGGATACTGTCCTTTATCTTTGGAGTTCGTTTCAATTTGTGTAGTACATAAAAT 5393  
Qy 4861 AATGTAGAAAGGTTTGGAGGAACGTTATTTGAGTGTGACAGCGGCTCGCCAAATGAA 4920  
Db 5394 AATGTAGAAAGGTTTGGAGGAACGTTATTTGAGTGTGACAGCGGCTCGCCAAATGAA 5453  
Qy 4921 CTCACTGAAAGGTTGTTGAGGAGTTCGTGATGAAGTACCAATGGCTGTGA 4972  
Db 5454 CTCACTGAAAGGTTGTTGAGGAGTTCGTGATGAAGTACCAATGGCTGTGA 5505

RESULT 2

US-09-962-527-1  
; Sequence 1, Application US/09962527  
; Publication No. US20030049813A1  
; GENERAL INFORMATION:  
; APPLICANT: GARGER, STEPHEN  
; HOLTZ, R. BARRY  
; McCULLOCH, MICHAEL  
; TURPEN, THOMAS  
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
; FROM PLANT SOURCES  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:  
; ADDRESSEE: Howrey & Simon  
; STREET: 1299 Pennsylvania Avenue N.W.  
; CITY: Washington  
; STATE: DC  
; COUNTRY: USA  
; ZIP: 20004  
; COMPUTER READABLE FORM:  
; MEDIUM TYPE: Diskette  
; COMPUTER: IBM Compatible  
; OPERATING SYSTEM: DOS  
; SOFTWARE: FastSEQ for Windows Version 2.0  
; CURRENT APPLICATION DATA:  
; APPLICATION NUMBER: US/09/962,527  
; FILING DATE: 24-Sep-2001  
; CLASSIFICATION: <Unknown>  
; PRIOR APPLICATION DATA:  
; APPLICATION NUMBER: 09/037,751  
; FILING DATE: 10-march-1998  
; ATTORNEY/AGENT INFORMATION:  
; NAME: Halluin, Albert P

; REGISTRATION NUMBER: 25,277  
; REFERENCE/DOCKET NUMBER: 00801.0140.999  
; TELECOMMUNICATION INFORMATION:  
; TELEPHONE: 650-463-8109  
; TELEFAX: 650-463-8400  
; TELEX: <Unknown>  
; INFORMATION FOR SEQ ID NO: 1:  
; SEQUENCE CHARACTERISTICS:  
; LENGTH: 6395 base pairs  
; TYPE: nucleic acid  
; STRANDEDNESS: single  
; TOPOLOGY: unknown  
; MOLECULE TYPE: Genomic RNA  
; SEQUENCE DESCRIPTION: SEQ ID NO: 1:  
US-09-962-527-1  
  
Query Match 40.9%; Score 2034.2; DB 10; Length 6395;  
Best Local Similarity 44.4%; Pred. No. 0;  
Matches 2214; Conservative 957; Mismatches 1793; Indels 21; Gaps 4;  
  
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Db 537 AAAACAGUCCCAACUCCAAAAGGAAGCAUUGACAGAUACGACAGAAUUCUGAAGAC 596  
Qy 66 GTCTGCTGCTCTAAACTTTTCAGGATTGTGATATACATCGCCAGAGATAGTGGTAGA 125  
Db 597 GCUGUCUGACAAUACUUCACAGAAUGCGCAUUCAGCCGUAUGCAGCAUAUAGGAGA 656  
Qy 126 AGATACGCTGTGCTGTCACAGTTTGTATGATATCTCTGTGATGAGTTTGGAGCTGCG 185  
Db 657 GUGUUGCCAUUGCGCUACACAGCAUAUAGCAUACACGCCGAGUAGUUGGGGGCGCA 716  
Qy 186 TTAATATCTAAGAAATATACATGATATGTTATGAGCTTCCATTTTGGCAGAGCATTTA 245  
Db 717 CUCUUGAGGAAAAGUCCAUACGUGCAUUGCCUUCUCCAUUCUCCGAGAACUUGCU 776  
Qy 246 CTAGACAGAGGAGGTTACGCTTTAATGAATAGGCGCAACTTTCAAAGAGAGAGTGAT 305  
Db 777 CUUGAAGAUUACUACGUCAAUUUGGAGCAAAUACACCGUGUUUUUUGCGCGAUGGAG 836  
Qy 306 GATGTTTCTTTTCTTGTGATGAAAGTACTTTAAATATATAGTCAATAATACAAAT 365  
Db 837 AAGUUGACCUUUUUUUGCAUACAGAGAGUACUUAUUAUUGCAUUAUUGUUAUUAU 896  
Qy 366 ATCTGCAATATGATGTTAAATCTTCTTCTGCTCTCTAGTAGAAATAGTTTACTTTAAG 425  
Db 897 AUUCUUAAGUAGUGUGCAAAAACUACUUCGCGCCUCUUAUAGAGAGGUUUUACAUAG 956  
Qy 426 GAATTTTCTCACTAGGTTTAACTTCTGTTTGTAAATTTACCAAGTAGATACCTAT 485  
Db 957 GAGUUUUUAGUACACAGAUUUAUACCGUUUUUUGAUGUUUUUUAAGAUUAGAUUUU 1016  
Qy 486 ATCTGTACAGAGTGTGTAGACAAGTAGGTGTGATAGTATCATCTTCTATGAGCGCATG 545  
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Qy 546 GAAGACGCTTTGCTTACAGAAAAACCTTGGCCCATGTTCAACACTGAAAGAGCAATCTTT 605  
Db 1077 GAAGACGUGGCAUUAUACAAAAGACUCUUGCAUUGGCAACACGACGAGAGAAUUCUCC 1136  
Qy 606 AGAGACAGGCTTCGGTTAACTTTTGGTTCCTTAAGATGAGGACATGGTATAGTACCG 665  
Db 1137 GAGGAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 1196  
Qy 666 CTGTTTTCAGGCTTCTATTACAGCAAAAAGATCAAGAGGAGTGAGGTCATTGTTAATCGT 725  
Db 1197 UUAUUGCAUUAUUAUUGGAGACUAGUAGAGGACGCGCAAGAGUAGUAGUAGUAG 1256  
Qy 726 GACTTCGTTTACAGTGCTTAAATCATATCATAGACATATCAAGCCAAAGCGCTTACCTAC 785  
Db 1257 GAUUCGUGUUUACAGUGCUUUAACCAUUCGAAUACCAUACCGAGGCGAAAGCUUACAU 1316  
Qy 786 CAGAACGTATTATCTTTTCGTGGAGTCTATAAGATCCCGCGTGATAATCAATGGTGTACT 845

[illegible]



TURPEN, THOMAS  
 TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
 PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
 FROM PLANT SOURCES  
 NUMBER OF SEQUENCES: 5  
 CORRESPONDENCE ADDRESS:  
 ADDRESSEE: Howrey & Simon  
 STREET: 1299 Pennsylvania Avenue N.W.  
 CITY: Washington  
 STATE: DC  
 COUNTRY: USA  
 ZIP: 20004  
 COMPUTER READABLE FORM:  
 MEDIUM TYPE: Diskette  
 COMPUTER: IBM Compatible  
 OPERATING SYSTEM: DOS  
 SOFTWARE: FastSeq for Windows Version 2.0  
 CURRENT APPLICATION DATA:  
 APPLICATION NUMBER: US/10/828,029  
 FILING DATE: 20-Apr-2004  
 CLASSIFICATION: <Unknown>  
 PRIOR APPLICATION DATA:  
 APPLICATION NUMBER: US/09/962,527  
 FILING DATE: 24-Sep-2001  
 APPLICATION NUMBER: 09/037,751  
 FILING DATE: 10-march-1998  
 ATTORNEY/AGENT INFORMATION:  
 NAME: Halluin, Albert P  
 REGISTRATION NUMBER: 25,277  
 REFERENCE/DOCKET NUMBER: 00801.0140.999  
 TELECOMMUNICATION INFORMATION:  
 TELEPHONE: 650-463-8109  
 TELEFAX: 650-463-8400  
 TELEX: <Unknown>  
 INFORMATION FOR SEQ ID NO: 1:  
 SEQUENCE CHARACTERISTICS:  
 LENGTH: 6395 base pairs  
 TYPE: nucleic acid  
 STRANDEDNESS: single  
 TOPOLOGY: unknown  
 MOLECULE TYPE: Genomic RNA  
 SEQUENCE DESCRIPTION: SEQ ID NO: 1:  
 US-10-828-029-1  
 Query Match 40.9%; Score 2034.2; DB 19; Length 6395;  
 Best Local Similarity 44.4%; Pred. No. 0; Mismatches 1793; Indels 21; Gaps 4;  
 Matches 2214; Conservative 957;  
 QY 6 AAGGTAATTCCTGAGTTTCAAGGGAGGCTTTTAAACAGGTATGACAGGCTCCACAGAA 65  
 DB 537 AAAACAGUCCCAACUUCCAAAGGAAGCAUUGACAGAUACGACAGAAUUCUGAAGAC 596  
 QY 66 GTCTGCTGCTTAAACTTTTTCAGGATGTCGAATACATCCGCCAGAGATAGTGATGA 125  
 DB 597 GCUGUCUGUACAAUUAUCCAGACAAUCCGACAUCCAGCGAUGCAAGCAUUCAGGAC 656  
 QY 126 AGATACGCTGCTCTGACAGCTTTGTATGATATTCCTGTGATGATGTTGAGCTGG 185  
 DB 657 GUGUAGUCCAUUGCGCUACAGCAUUAUGACAUACACAGCCAGCCAGUAGUCCGGGGCGCA 716  
 QY 186 TTAATATCTAAGAAATACATGATGATGTCAGCTTCCATTTTGGCAGAGCATTTATTA 245  
 DB 717 CUUUGAGGAAAUUGUCCAUUGUUGUUGCGUUGUUGUUGUUGUUGUUGUUGUUGUUG 776  
 QY 246 CTAGACAGACGAGGTTTACGCTTAAATGAATAGGCGCAACTTTTCAAAAGAGAGTGAT 305  
 DB 777 CUUGAAGAUUACUACGUAUUGGACGAAUUAUUGAUAUUGUUGUUGUUGUUGUUGUUG 836  
 QY 306 GATGTTTCTTTTCTTCTGATGAAGTACTTTAAATTTATATGATGATGATGATGATGAT 365  
 DB 837 AAGUAGACCUUUCUUGUACAGAGAGUACUUAUUAUUGUACUUAUUGUACUUAUUGU 896  
 QY 366 ATCTTGCAATTATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGAT 945

DB 897 AUUCUUAAGUAGUGUGUCAAACUUCUCCGCCUUAUAGAGAGUUAUUAUUAAGAG 956  
 QY 426 GAAATTTTGTAGTCACTAGGTTTAAATTTGTTGTTTGTAAATTTTACCAAGTAGATACCT 485  
 DB 957 GAGUUAUAGUACACAGAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 1016  
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 DB 1017 CUUUGUACAAAGGUGUGGCCCAUAAAGUGUAGUAGUAGUAGUAGUAGUAGUAGUAG 1076  
 QY 546 GAAGAGCGCTTTGCTTACAAGAAAACCTTTGGCCATGTTCAACACATGAAAGCAATCTTT 605  
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 DB 1197 UUAUUGCAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 1256  
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 QY 1386 GTGGCTTAAGGCTCT-----TAAAGCAGCGGCTCTGAGGCGGCTGTGTGTGTGTGT 1439  
 DB 1917 GUUGCGCUAGCUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAU 1976  
 QY 1440 ACATCCGAAGAGGTGAACGTAATAATTTCTTCTTCTTCTTCTTCTTCTTCTTCTTCT 1499

Db 1977 AGAGAAUGUAGAAACCGUCCAUAGAGGGUUGUAGUCCGACAGAGAGUUAUUAAGCU 2036  
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Db 2037 GGUCUUGCUGAGAUCAUCGGAGUCGUCCUAUUAAGAAACGAGGAGUAGAGUCUUUA 2096  
Qy 1560 AACGATTTCCNTAAGGCTTGGTGGATAGTGTGATTAACAAGCMAATGGCATGGTGTGTC 1619  
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Qy 1740 GATTCCAGGGAGAAAGTTGGTGGGATGTCACTTTGAAAMAAGTGGCTCCTCAAACT 1799  
Db 2277 GAAACCCGUCAAAAGUUGGAGUCUUGGAUUGCAUCUAGGAAGUGGUUAAUCAAACCA 2336  
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Qy 1980 AGAGACGTGAACCCACGAACTTACTGCAAGATGTTACTTGTGGATGGGTCCTGCT 2039  
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Db	2277	GAATCCCGTCAAAAGTTGGAGTCTTGATGTTGGCATCTAGGAAGTGGTTAATCAAAACCA	2336
Qy	1800	CGCGCCAAAGGTCAATTCATGGGAGTTGTCTCTGATTA CAAGGGGAAAATGTTTACTGCA	1859
Db	2337	ACGCGCAAGAGTCATGATGGGGTGTGTTGAAACCCACGCGAGGAAGTATCATGTGGCG	2396
Qy	1860	CTTCTATCTTATGAAGAGATAGAAATGGTGA CTGAGAGCGACTGGAGGAGGGTGGCTGTA	1919
Db	2397	CTTTTGGAAATATGATGACGAGGGTGTGGTGACATGCGATGATTGGAGAGAGTAGCTGTC	2456
Qy	1920	TCATCTCATACAATGGTATATCTCTGATATTGCAAGCTCCAAATCTGAGGAAAACAATG	1979
Db	2457	AGCTCTGAGTCTGTGTTTATTTCCGACATGGCGAACTCAGAACTCTGCGCAGACTGCTT	2516
Qy	1980	AGAGACGGTGAACCCCAAGAACCTTACTGCAAAAGATGTTACTTGTGGATGGGTGCCTGGT	2039
Db	2517	CGAAA CGGAGNACGCAATGTCAGTAGCGCAAGGTTGTTCTTGTGGACGGAGTTCGGGC	2576
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Qy	2100	CCTTGGAAAAAAGCTGCTGTCTGTGATCAGAAAGAGGGCTAATTCATCTGACACTGATAAGA	2159
Db	2637	CCTGGGAAGCAAGCCGGGAAAATGATCAGAAAGAGCTGCGAATTTCTCAGGGATTAATTGTG	2696
Qy	2160	GCCACAATGACAAATGTGAGAAAGGTAGATTCACTTCTAATGCAT-----CCAAAA	2210
Db	2697	GCCACGAGGACACGTTAAAACCGTTGATCTTCTCATGATGAATTTTGGGAAAAGCACA	2756
Qy	2211	CCGCGATCACACAAGAGGCTTTTATTGATGAAGGGTTGATGTGCAACACCGGTTGTGTT	2270
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Qy	2271	AATCTCTGGTGCTTATCTCTGGTTGGGACATCGCATACATTTACGAGAGATACACAGCAG	2330
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Qy	2331	ATTCCTTTCAATAACAGAGTTCAAGAAATTCGCGTATCCCAAAACATTTTGAGAAGCTGCAA	2390
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Qy	2391	GTGGATGAAGTTTGATGAGAGGACACACACTGAGATGCCAGGTGATGTAATTTTTTC	2450
Db	2937	GTTGACGAGGTGGAGACACGAGAACTACTCTCCGTTGTCCAGCCGATGTCAACATTAAT	2996
Qy	2451	CTACAATCGAAGTACGAGGAGCGGTGACAAACACTTCAACTGTGACAAAGCTCGGTCTCA	2510
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Qy	2511	TCTGAGATGATAGCGGTGAAGGGAGTACTAAACAGTGTTCCAAACCACTAAAAGGGAAA	2570
Db	3057	CAGAGATGTGCGCGAGCGCCGCTGATCAATCCGATCTCAAAAACCTTGCATGGCAAG	3116
Qy	2571	ATTGTAACTTTTCACTCAGGCTGATPAAATTTGAGTTAGGAGGAAGGCTATAAGAAATGTG	2630
Db	3117	ATCTGACTTTTACCCCAATCGGATAAAGAAAGCTCTGCTTTTCAAGAGGGTATTCAGATGTT	3176
Qy	2631	AACACCGTTTATGAGATCCGAGGAACCTTTGAAAGATGTGTCGCTGGTCAGATTGCAAG	2690
Db	3177	CACACTGTGCATGAAGTGCAGAGGCGAGACATACTCTCATGTTTTCACCTAGTTAGGTTAACC	3236
Qy	2691	GCAACTCCACTGACTCTGATTTCCAAGTCTTTCGCCGATGTTCTAGTCGCTCTGCACTAGA	2750
Db	3237	CCTACACGAGTCTCCATCAATGTCAGGAGACAGCCCAACATTTTTGGTTCGCAATGTCAAG	3296
Qy	2751	CACACAAAGAGCTTCAAATATTAACCGGTAGTGTAGATCCTTTTGTAGTACAGATAATTAGT	2810

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2871	Qy	2871	Qy	GATCTAGAGAAACTTAGCTCGTACTTGTGTAGATATGTATAAGGTCTGATGCAGGAACACAA	2930
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2931	Qy	2931	Qy	TAGCAATTAACAGATGAGTGTTCAAAGGTCATAATCTCTTTGTGGCAACACCTTAAA	2990
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2991	Qy	2991	Qy	TAGCAATTAACAGATGAGTGTTCAAAGGTCATAATCTCTTTGTGGCAACACCTTAAA	3050
3537	Db	3537	Db		3596
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3111	Qy	3111	Qy	TAGCAATTAACAGATGAGTGTTCAAAGGTCATAATCTCTTTGTGGCAACACCTTAAA	3170
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3648	Qy	3648	Qy	TAGCAATTAACAGATGAGTGTTCAAAGGTCATAATCTCTTTGTGGCAACACCTTAAA	3707
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4257	Db	4257	Db		4316
3768	Qy	3768	Qy	TAGCAATTAACAGATGAGTGTTCAAAGGTCATAATCTCTTTGTGGCAACACCTTAAA	3827
4317	Db	4317	Db		4376
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 ; HOLTZ, R. BARRY  
 ; McCULLOCH, MICHAEL  
 ; TURPEN, THOMAS  
 ; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
 ; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
 ; FROM PLANT SOURCES  
 ; NUMBER OF SEQUENCES: 5  
 ; CORRESPONDENCE ADDRESS:  
 ; ADDRESSEE: Howrey & Simon  
 ; STREET: 1299 Pennsylvania Avenue N.W.  
 ; CITY: Washington  
 ; STATE: DC  
 ; COUNTRY: USA  
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 ; CLASSIFICATION: <Unknown>  
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 ; ATTORNEY/AGENT INFORMATION:  
 ; NAME: Halluin, Albert P  
 ; REGISTRATION NUMBER: 25,277  
 ; REFERENCE/DOCKET NUMBER: 00801.0140.999  
 ; TELECOMMUNICATION INFORMATION:  
 ; TELEPHONE: 650-463-8109  
 ; TELEFAX: 650-463-8400  
 ; TELEX: <Unknown>  
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 ; STRANDEDNESS: single  
 ; TOPOLOGY: unknown  
 ; MOLECULE TYPE: Genomic RNA  
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Qy 1086 AAGATCAAGATCCAGATCTGTATGTACATGGAAGAACAGGTTTCGTAGCTGAATACACC 1145  
Db 1617 GAGAUACGGGUGGCUGAUUAUUGUACCUUCCACGACAGAUUAGUGACUGAGUACAG 1676  
Qy 1146 AAGTCTGAGGAGTTACCGCATCTAGATATCAAGAGGACTTTAGAAGAGCTTGACAAATG 1205  
Db 1677 GCCUCUGGACAUUGCGCUUGACAUUAGGAAGAAUGAUGAAGAAACCGGAAGUAG 1736  
Qy 1206 TACAGCGGTTTACAGATATCTATCCTTAAGGTCGTGATAATTTTCGATATCGCGAG 1265  
Db 1737 UACAAGCAUUCUUCAGAGUUAUCGGUGUUAAGGAGUCUCAGAAUUCGAGUUGUAGUU 1796  
Qy 1266 TTCAAAGACATGTGCAAGGCTTTAGATGTTAGTCTCTGATGTGGCAGCAGCAGTAACTGTT 1325  
Db 1797 UUUUCCAGAUUGCCAAUUCUUGGAAAGUAGUACCCCAUAGACGGCAGGCAAGGUUAUAGUC 1856

Qy 1326 GCAGTGGCCGAGAAATAGAACGGCTTTAACTCTTACTTTTGTATTAAGCAACCGAGGAGAAAT 1385  
Db 1857 GCGGUCAUGAACGAAAGAGAGCGGUGACUCUCACAUUUGAAACGACCUACUGAGCGGAU 1916  
Qy 1386 GTGGCTAAAGCTCT-----TAAAGCAGCGGCTCTGAGSCCGTGTGTATGTTTGAACCG 1439  
Db 1917 GUUGCGUAGCUUUA CAGGAUCAAGAGAGGCUU CAGAAGGUCU UUGUAGUUAUCCUCA 1976  
Qy 1440 ACATCCGAGAGGCTGAACGCTAAATAAATTTCTATTCTGAGAAAAGGGAGATTGCCCTGTG 1499  
Db 1977 AGAGAAGUUGAAGAAACCGUCCAUAGAGGGUUCG AUGGCCAGAGGAGAGUUAUAUUGCU 2036  
Qy 1500 TGTGCGAAGAGTCA TGGTTTGACGAATGCTAACTTAGACCA CAGAGAGTTGGAGTCCCTC 1559  
Db 2037 GGUUUGUGGAGAUCAUCGCGAGUGGUCUUAUUCUUAAGAACGAGGAGAUAGAGUCUUUA 2096  
Qy 1560 AACGATTTCCATAAGGCTTGGTGGATAGTGTGATTACAAAGCAAAATGGCATCGGTTGTC 1619  
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Qy 1620 TACACTGGCTCACTCAAAGTTCAACAAATGAAGAACTATGTGGACAGTTTGGCAGCTTCG 1679  
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Qy 1680 TTGTCGCGCACTGTATCAAACTCTATGCAAGTCACTAAAGGATGAAGTCGGGTATGATCT 1739  
Db 2217 CUAUUGUGCGUGUGCAUUCGUCACAGAUCCUCAAAGUACAGCUGCUUAUUGACUU 2276  
Qy 1740 GATTCCAGGGAGAAAGTTGGTGTGGATGTCACTTTTGAAGAAAGTGCTCTCAAACT 1799  
Db 2277 GAAACCGCUAAAAGUUUGAGUGUUGGUAUGUUGCAUCUAGGAAGUGUUAUCAAACCA 2336  
Qy 1800 CGCGCCAAAGSTCAITTCATGGGAGTTGCTCTGGATTACAAGGGGAAAAATTTGTTACTGCA 1859  
Db 2337 ACGGCCAAGAGUCAUGCAUGGGGUGUUGUUGAAAAACCCACCGAGGAAGUAUCAUGUGCG 2396  
Qy 1860 CTTCTATCTTATGAAGAGATAGATGGTGACTGAGAGCGACTGGAGGAGGGTGGCTGTA 1919  
Db 2397 CUUUUGAAUUAUGAGCAGGGUGUGUGACAUUGCAUUGGGAAGAAUGAGUGUCUG 2456  
Qy 1920 TCATCTGATACAAATGGTATATTCTGTATTTGCAAGCTCCAAATCTGAGGAAACAAATG 1979  
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Db 2517 CGAAACGGAGAACCGCAUGUCAGUAGCGCAAAAGGUUUCUUGGACGCGAGUUCGCGGC 2576  
Qy 2040 TGTGGAAGTACAAAGAGATTTTGAAGATTTTGAATCTTGTGATGAGGATTTGATCTTGGTT 2099  
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Qy 2100 CTTGAAAAACAAGCTGCTGTATGATCAGAAGAGGGCTAAATTCATCTGGACTGATAGA 2159  
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Qy 2211 CCGCGATCACACAAGAGGCTTTTATTGATGAAGGGTTTGTGTCACACCGGTTGTGTT 2270  
Db 2757 CGCUGUAGUUCAAGAGGUUAUUCUUGAUGAGGGUUGUUGUUGAUUACUGGUUGUUGU 2816  
Qy 2271 AACTTCTCGTGTCTATCTCTGTTGCGACATCGCATACATTTACGGAGATACACAGCAG 2330  
Db 2817 AAUUUUCUUGGCGAUGUCAUUGUGCGAAAUUGCAUUAUUGUUAUCGAGACACACAGCAG 2876  
Qy 2331 ATTCTTTTCAATTACAGAGTTTCAGAATTTCCGTATCCCAAACTTTTGAAGAGCTGCAA 2390  
Db 2877 AUUCAUACAUAUAGAUUUUUCAGGAUUCGCCGUACCCCGCCCAUUUUUGCCAAAUUGGAA 2936









Db 3597 GAUUGCAUAUUGGAUUGCUAAGUCUGUUGCGCCUAGGAUCAAUCAAACCAUA 3656  
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Db 3657 AUACCUAUGUACGAACGGCGGCAAAUUGCCAGACUGGACUUAUUGGAUAUUA 3716  
QY 3171 GTTGCAATGATTAAGAAATTTCAACGCCACCAAGACCTGACGGGACGATTTGACATTTGAG 3230  
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QY 3231 AGCACCCCATCTGTTAGTAGATAGTTTGTGATAGCTATTTTATTAAGAAAGAAA 3290  
Db 3777 AAUACUGCAUCUUAUGUAGAUAGUUAUUGUUAUUGUUAUUGUUAUUGUUAUUGA 3836  
QY 3291 TACACAAAATAATTTGCTGGAGTGATGACGAAGGATTCATATGATGAGATGTTGGAAGAAC 3350  
Db 3837 AAACCAAAUAAAUGUUUUCUUGUCAGUAGAGAGUCUCUAUAGAUUGUUAAGAAAG 3896  
QY 3351 AGGAAAGAAGTACTATTGGACGACTTGGCTTAACATAATTTTACAGATCTGCCGGCCATC 3410  
Db 3897 CAGGAACAGGUAAACAAUAGCCAGCUCGCGAGUUAUUGUUAUUGUUAUUGUUAUUG 3956  
QY 3411 GATCAGTTACAAGCACATGATCAAGGCTCAACCAAAACAGAAATTTGACCTTTCAATTCAG 3470  
Db 3957 GAUCAGUACAGACACAUGAUUUAAGCAACACCAAGCAAAAUAUUGGACACUUAUCCAA 4016  
QY 3471 AATGAATACCCCTGCTCTGCAAAACAATTTGTCTACCATTTGGAAGCAGATCAACGGTATTG 3530  
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QY 3588 CTTTTCTTTACTAGGAAAACCTCAGAACAGATTCAGAAATTTTCTCGGATCTCGACTCG 3647  
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QY 4128 TTGATCTCCAACTTGGGCAAAACATATCAAGATTTATGATCACTTTAGAGATTTAAGG 4187

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Db 4737 AGGUCUCUUGUGAUGUGUGUGUUCGUU--GAACAAUUGUGGUAUUAACACACAGUUG 4793  
QY 4248 AACGCGAGCTATCAAGAGAGTTTCAATAAACCGCGATTTGATGTTGCTTTTAAATTTGT 4307  
Db 4794 GACGCGCUGUAUGGAGGUGUCAAAGACGCGCCUCCAGGUCUGUUGUUAUUAUUAUUA 4853  
QY 4308 GTTAAACAAATTTTGTGTGATAAATTTTATTTAGAACTTTGTTTAAATTTGCTGTTAG 4367  
Db 4854 CUGGUGAUAUUGUCUGUAUUAAGUUCUUUUUAGAAUUGUUUUUAUAGUGGUCUCUAGU 4913  
QY 4368 TCTCAGAGATCTGTCCTCAAAATTTAGCGAGTTTCATTGATCTTTTGAACACAGGATGACT 4427  
Db 4914 UGUUAAAGGAAGAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4973  
QY 4428 TCCGGCATTCATGACTAAGGTCAAGAGTGTAGAAATATCGACTGTGGACAAAGATTATGGC 4487  
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QY 4548 AGGTTATGTTGCTTGTAGCTGATTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTTGTT 4607  
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QY 4668 GCTGSGTGTGCTATCACGCCCTCTGCTGCAAAAAGAAATTTTCTTTTAAAGCTAATCCCTAA 4727  
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QY 4728 TTATTTCAATAACATCCGAGGATCTGAGAACGCCCTGCGCAAGTGTGTTAGTGAATATCAA 4787  
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Db 5334 AAUUGAAGAUUGCAGCGGUGUUCUGCCGCUUCUGGAGUUGUGUGUGUGUGUGUGU 5393  
QY 4848 AGTACATAAAATAATGTAAGAAAAGTTTGTAGGGAACGTAATTTTGTAGTGTGACAGACGG 4907  
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Db 5454 AGGCCCCAUGGAACUUAACAGAGAGAGUUGUGUAGUUAUUAUUAUUAUUAUUAUUA 5513  
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Db 5514 GAUCA 5518

## RESULT 9

US-09-962-527-5  
; Sequence 5, Application US/09962527  
; Publication No. US20030049813A1  
; GENERAL INFORMATION:  
; APPLICANT: GARGER, STEPHEN  
; HOLTZ, R. BAREY  
; MCCULLOCH, MICHAEL  
; TURPEN, THOMAS  
; TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
; PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
; FROM PLANT SOURCES  
; NUMBER OF SEQUENCES: 5  
; CORRESPONDENCE ADDRESS:



Db 2097 GAGCAGUUUUAUUGGCAACGGCAGAUUUCGUUAUUUGUAAGCAGAGUAGCUCGUAUUG 2156  
Qy 1620 TACATGCGCTCACTCAAGTTTCAACAAATGAAGAACTATGTGGACAGTTTGGCAGCTTCG 1679  
Db 2157 UACACGGGUCCGAUUAAGUUUAGCAAAUAGAAUUAUUAUUGAAGCUCUGGUAGCAUCA 2216  
Qy 1680 TTGTCCGCCACTGTATCAAAATCTATGCAAGTCACTAAAGATGAAGTCGGGTATGATCT 1739  
Db 2217 CUUUCUGCGGUGUGGAAUUCUGCAAGAUCUCUCAAAGUACAGCUGCUUAUUGACCUU 2276  
Qy 1740 GATTCCAGGGAGAAAGTTGGTGTGGGATGTCACTTTGAAAAGTGGCTCCTCAACCT 1799  
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Qy 2040 TGTGGAAGTACAAAGAGATTTGAAAGATTTGATCTTGAAGAGATTTGATCTTGGTT 2099  
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Qy 2100 CCTGGAACACAGCTGCTATGATCAGAGAGGCTTAATCATCTGCACTGATGAAGA 2159  
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Qy 2271 AACTTCCTGTTGCTTACTCTGTTGCGACATGCATACATTTACGAGATACACAGCAG 2330  
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Qy 2511 TCTGAGATGATGAGCGGTGAAGGAGTACTAAACAGTGTTCCAAACCACTAAAAGGAAA 2570  
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Qy 2571 ATTGTAATTTCACTCAGGCTGATAAATTTGATTTAGAGGAGAGGCGTATAAGATGTG 2630  
Db 3117 AUUCUGACUUUAUCCCAUUGCAUUAUUAUUGAAGAGCUCUGUUAUUAAGGGGUAUUCAGAU 3176  
Qy 2631 AACACCGTTATGATGATCAGAGGAGAAACCTTTTGAAGATGTGCTGGTTCAGATTCAGC 2690  
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Qy 2691 GCAACTCCACTGACTCTGATTTTCCAAAGTCTTCCCCGATGTTTCTAGTCGCTCTGACTAGA 2750  
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Qy 3051 GATTGTGTTCTTGAATTTTCCAAAAGTATTCGATGCGCAAGAGGTGAACCATGTCTTA 3110  
Db 3597 GAUUGCAUAUUAUGAUAUUGUUAAGUCUGUUGCGCCUUAAGGAUUAUUAUUAUUAUUA 3656  
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Qy 3171 GTTGCAATGATTAAGAAATTTTCAACGCCACACAGCTGACGCGGAGCGATTGACATTGAG 3230  
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Qy 3231 AGCACCGCATCTGTTGATGATAAGTTTGTGATGATGATTTTATTTAAAGAAAGAAAA 3290  
Db 3777 AAUACUGCAUCUUUAGUUGAUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 3836  
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Db 3837 AAACCAAAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 3896  
Qy 3351 AGGAAAGAAAGTACTATTGGAAGCTTTGGCTTAACATAAATTTTACAGATCTGCGCGCATC 3410  
Db 3897 CAGGAACAGGUAACAAUAGGCCAGCUGCAGAUUUUAUUAUUAUUAUUAUUAUUAUUA 3956  
Qy 3411 GATCAGTACAGCAGATGATCAAGGCTCAACCAAAACAGAAATTTGACCTTTCAATTCAG 3470  
Db 3957 GAUCAGUACAGACACAUUAUUAAGCACAACCCCAAGCAAAUUAUUAUUAUUAUUAUUA 4016  
Qy 3471 AATGAATACCCCTGCTGCAAAACAAATTTGCTACATTTGAAAGCAGATCAACGGTATTGTTG 3530  
Db 4017 ACGAGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4076  
Qy 3531 GCGGTTTCTTCT--CAGAGCTTACAAAGTTGCTGCTCGAGGCAATTTGATTTTAAAGAGTTT 3587  
Db 4077 GGCCCGUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4136  
Qy 3588 CTTTTCTTTTACTAGGAAAACCTCCAGAAACAGATTTCAGAAATTTTCTCGGATCTCGACTCG 3647  
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Db 4257 UUCAUGGCAUGAUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUAUUA 4316



Db 597 GCUGUCUGUACAAUACUUUCCAGACAACUUGCGCAUCAGCCGAUGCAGCAUACAGGCAGA 656  
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Db 657 GUGUUGCCAUUGGCUACACAGCAUAUAGCAUACACCCGAUGAGUUCGGGCGGCA 716  
QY 186 TTAATATCTAAGAAATPACATGATGATGTTATGCGAGTTCCTATTTGGCAGAAGCATTTA 245  
Db 717 CUCUUGAGGAAAAUUGCUACUGUCGUAUGCGGCUUCCAUUCUCUGAGAAACUGCUU 776  
QY 246 CTAGACCGACGAGGTTCAGCTTAAATAGGAGCAACTTTCAAAAGAGAGGTGAT 305  
Db 777 CUGAAGAUCAUACGCUAAUUGGACGAAUACAACCGGUGUUUUGCGCGCAGUGGAGAC 836  
QY 306 GATGTTCTTTTCTTTCTGCTGAAGTACTTTAAATATAGTCAATAATACAAAAT 365  
Db 837 AAGUAGACUUUUCUUUGCAUCAGAGAGUACUCUUAUUAUUGUCAUAGUUAUUCUAU 896  
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QY 666 CTGTTTGAGGGTCTTATTACAGCAAAAGATGACAAAGGAGTGAAGTCAATGTTAATCGT 725  
Db 1197 UUAUUCGACAUUCUUUGGAGACUAGUAAGAGGACGCGCAAGGAUGUUGUCCUCCAG 1256  
QY 726 GACTTCGTTTACAGTGTCTTAATCATATCAGAACATATCAAGCCAAAGGCTTAATCTTAC 785  
Db 1257 GAUUCUGUGUUAACAGUGCUUAACCAUUCGAAUACUACAGGCGAAAGCTCUUAUAC 1316  
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QY 906 TTCAGACTAAGTGTGCGCTTCAAGACGATATAGTAAATGGAAGAAATTCGTTGCTTG 965  
Db 1437 CUGCAUACUAAAGCUGUCCUUAAGGAUGACUUAUCUGAUUAGCAAGUUUAGUUCUGGU 1496  
QY 966 GATTAAGACCACTCTGAATTAATTTGGATGAGTGGGCAAAATTTTGTGAAAGCTTTTC 1025  
Db 1497 UCGAAAAACGUGGCCAGCAUGUGUGGAUUGGAUUUUGCGGUUUUGGGAACGCAUUU 1556  
QY 1026 CCACTATCAAGAGAGATTTGGTACGAGGAAAAATTTCTGGATGTAAGTGAAGATGCTCTG 1085  
Db 1557 CCUCCUGGAAGAGAGGCUUUGAACAGGAAACUUAUCAGAGUGGCGAGCGCAUAUA 1616  
QY 1086 AAGATCAAGATCCAGATCTGTATGTCAATGGAAGACAGAGTTTCGTAGCTGAATACAC 1145  
Db 1617 GAGAUACAGGGGUGCUGAUCAUUAUGUACACCUUCCACGACAGAUUAGUGACUGAGUACAAG 1676  
QY 1146 AAGTCTCAGAGGTATACCGCATCTAGATATCAAGAAGGACTTTAGAAAGAGCTTGAGCAATG 1205

Db 1677 GCUCUGUGGCAUGCCUGGCUAGACAUUAGGAAGAAAGAAACGGAAGUGAUG 1736  
QY 1206 TAGACGCGTTATCAGAAATATCTATCTTTAAGGGTGTGATTAATTTTCGATATCGGAAG 1265  
Db 1737 UACAAUGCACUUUCAGAGUUAUCGGUGUUAAGGGAGUCUGACAAAUUCGAUUGUUGAUU 1796  
QY 1266 TTCAAAGACATGTGCAAGGCTTTAGATGTTAGTCTCTGATGTGCGCACACAGTAATCGTT 1325  
Db 1797 UUUUCCAGAUGGCCAAUCUUUGGGAUGAACCCAAUAGACGCGCAAGAAAGUUUAUAGUC 1856  
QY 1326 GCAGTGGCCGAGAAATAGAAGCGGTTTAACTCTTACTTTTATAGCAACCCGAGGAGAAT 1385  
Db 1857 GCGGUAUGAGCAUAGAGAGCGGUCUGACUCUCAUUAUUGAACGACCUACUGAGGCGAAU 1916  
QY 1386 GTGGCTAAGGCTCT-----TAAAGCACGGCGTCTGAGGCCGTGTATCTTCTTGAACCG 1439  
Db 1917 GUUGCGCUAGCUUUA CAGGAUACAAGAGAAGGCUUCAGAGGUGCUUUGUUGUAGUUAUCUCA 1976  
QY 1440 ACATCCGAAGAGGTGAACGTAAATAATTTTCTATTGCTGAGAAAGGGAGATTGCGCTGTG 1499  
Db 1977 AGAAGAUUGAAGAACCGUCCAUAGAAGGUGUCGAUGGCCAGAGAGAGAGUUACAUAUAGCU 2036  
QY 1500 TGTGCGAGAAAGTCAATGTTTGCAGAAATGCTTAACTTAGAGCACGAGGAGTTGGAGTCCCTC 1559  
Db 2037 GGUUCUGGAGAUCAUCCGAGUGCUUUAUUAAGAACGAGAGAUAGAGUCUUUA 2096  
QY 1560 AACGATTTCCATAAGGCTTTCGCTGGATGTGATTAACAAGCAAAATGGCATCGTTGTGTC 1619  
Db 2097 GAGCAGUUUAUUGGCAACCGGAGAUUCGUUAUUCGUAAGCAGAGAGAGCAGCUUGUG 2156  
QY 1620 TACATCGGCTCACTCAAGATTGAACAAATGAAGAACTATGTGACAGCTTTGGGAGCTTCG 1679  
Db 2157 UACACGGGUCGGAUUAAGUUCAGCAAAUGAAAAA CUUUAUGAUAGCCUGGUGAGCAUCA 2216  
QY 1680 TTCTCGCCACTCTATCAAAATCTATCAAGTCACTAAAGGATCAAGTCGGGTATGATCT 1739  
Db 2217 CUUAUCUGCGGUGUGGAUUCUGUCNAGAUCCUACAAGUACAGCUGCUUAUUGACCUU 2276  
QY 1740 GATTCCAGGAGAGAAAGTTGGTGTTCGGGATGTCACTTTGAAAAAGTGGCTCTCTCAAACT 1799  
Db 2277 GAAACCCGUAAGUUUGAGUCUUGGAGUUGCAUCUAGGAAGUGGUUAUACCAACCA 2336  
QY 1800 GCGGCCAAAGGTCATTTCATGGGAGTTGCTCTGATTTACAAGGGGAAAAATGTTTACTGCA 1859  
Db 2337 ACGGCCAAAGAGUCAGUAGGGGUGUUGUUGAAACCCACCGAGGAAGUUAUCAUGUGCG 2396  
QY 1860 CTTCTATCTTATGAAGGAGATAGATGGTGACTGAGAGCGACTGGAGAGGGTGGCTGTA 1919  
Db 2397 CUUUUGAAUUAUGAGCAGGAGGUGUGUGACAUUGCGAUUGGAGAGAGUAGCUGUC 2456  
QY 1920 TCATCTGATACAAATGGTATATCTGATATTTGCAAGCTCCAAATCTGAGGAAACAAATG 1979  
Db 2457 AGCUCUGAGUCUGUUGUUUAUUCGCAUGGCGGAAACUCAGAACUCUCGCGCAGACUCU 2516  
QY 1980 AGAGACGCTGAACCCACAGCACTCTGCAAGATGCTACTTGTGATGGGTGCGCTGCT 2039  
Db 2517 CGAAACGGAGACCGCAUGCAGUAGCGCAAGAGGUUGUUCUUGGAGCGGAGUUUCCGGGC 2576  
QY 2040 TGTGGAAGATFACAAAGGAGATTTTGAAGATTTGATCTTCTGATGAGGATTTGATCTTGGTT 2099  
Db 2577 UGUGGGAACCAAGAAAUUUUCCAGGGUUUAUUUGAUGAAGAUCAUUAUUUAGUA 2636  
QY 2100 CTTGGAACCAAGCTGCTGTATGATCAGAAAGGCTTAATTCATCTGCACTGATTAAGA 2159  
Db 2637 CCUGGGAAGCAAGCCGGAUUAUGACAGAAAGCUGGCGAAUUCUCAGGGAUUAUUGUG 2696  
QY 2160 GCCAATGACATGTGAGAACGTTAGTCTTCTTAATGAT-----CCAAAA 2210  
Db 2697 GCCAAGAGGACACCGUUAAAAACCGUUUAUUUUUUGAUGAAUUUUUGGGAAGACACA 2756  
QY 2211 CCGCGATCACAAGAGGCTTTTATTTGATGAAGGGTGTGATGCTGCACACCGTGTGTT 2270  
Db 2757 CGCUGUCAGUUAAGAGGUUAUUAUUGAUGAAGGGUUGAUGUUGCAUCUGGUUGUGUU 2816











McCULLOCH, MICHAEL  
TURPEN, THOMAS

TITLE OF INVENTION: A PROCESS FOR ISOLATING AND  
PURIFYING VIRUSES SOLUBLE PROTEINS AND PEPTIDES  
FROM PLANT SOURCES

NUMBER OF SEQUENCES: 5  
CORRESPONDENCE ADDRESS:  
ADDRESSEE: Howrey & Simon  
STREET: 1299 Pennsylvania Avenue N.W.  
CITY: Washington  
STATE: DC  
COUNTRY: USA  
ZIP: 20004

COMPUTER READABLE FORM:  
MEDIUM TYPE: Diskette  
COMPUTER: IBM Compatible  
OPERATING SYSTEM: DOS

SOFTWARE: Fast-SEQ for Windows Version 2.0  
CURRENT APPLICATION DATA:  
APPLICATION NUMBER: US/10/828,029  
FILING DATE: 20-Apr-2004  
CLASSIFICATION: <Unknown>

PRIOR APPLICATION DATA:  
APPLICATION NUMBER: US/09/962,527  
FILING DATE: 24-Sep-2001  
APPLICATION NUMBER: 09/037,751  
FILING DATE: 10-march-1998

ATTORNEY/AGENT INFORMATION:  
NAME: Halluin, Albert P  
REGISTRATION NUMBER: 25,277  
REFERENCE/DOCKET NUMBER: 00801.0140.999

TELECOMMUNICATION INFORMATION:  
TELEPHONE: 650-463-8109  
TELEFAX: 650-463-8400  
TELEX: <Unknown>

INFORMATION FOR SEQ ID NO: 4:  
SEQUENCE CHARACTERISTICS:  
LENGTH: 6475 base pairs  
TYPE: nucleic acid  
STRANDEDNESS: single  
TOPOLOGY: unknown

MOLECULE TYPE: Genomic RNA  
SEQUENCE DESCRIPTION: SEQ ID NO: 4:  
US-10-828-029-4

Query Match 40.8%; Score 2031; DB 19; Length 6475;  
Best Local Similarity 44.4%; Pred. No. 0;  
Matches 2212; Conservative 957; Mismatches 1795; Indels 21; Gaps 4

Qy 6 AAGTAATCTCTGAGTTTCAAGGAGGCTTTTAACAGGTATGCAGAGTCTCCCAACGAA 65  
Db 537 AAAACAGUCCCAACUCCAAAGGAAGCAUUUGACAGAUCCGAGAAUUCUGAAGAC 596

Qy 66 GTCTGCTGCTCTAAACCTTTTCAGGATTGTCCAATACATCCGCCAGAGAAATAGTGTAGA 125  
Db 597 GCUGUCUGACAUAUCCAGACAUAUGCGACCAUCCAGCGCAUUCAGGACGACGAC 656

Qy 126 AGATA CGCTGTGTCTCGACAGATTTGTATGATATTTCTGTGTCATGAGTTTGAGCTGGC 185  
Db 657 GUGUAGUCCAUUGCGCUACACAGCAUAUAUGACAUACAGCGCGAUGUUCGGGGCGCA 716

Qy 186 TTAATATCTAAGATATATCATGTATGTTATGCAGCTTCCATTTTGCAGAACATTATTATTA 245  
Db 717 CUCUUGAGGAAAAUGUCCAUACGUGUUGCGGUUCCUUCACUUCUUGAGAACCCUUCU 776

Qy 246 CTAGACCAAGCGGAGTTTACGCTTAATGAAATAGGCGCAACTTTCAAAAGAGAAAGTGAT 305  
Db 777 CUUGAAGAUCAUACGUCAAUUUGACGAAAAUCAACGCGGUGUUUUCGCGGAUGGAGAC 836

Qy 306 GATGTTTCTTTTCTTCTGCTGATGAAGAGTACTTTAAATATATAGTCATATAATACAAAAT 365  
Db 837 AAGUUGACUUUUUUUGCAUCAGAGAGUACUCUUAAUUAUUGUCAUUAUUCUAAU 896

Db 1977 AGAAGUUGAAGAACCGUCCAUAGAGGUGUUGCAUGGCCAGAGAGAGUUACAUAUAGCU 2036  
QY TGTGCAGAAAGTCAATGTTTGAAGAACTGTAATCTAGAGACACAGAGAGTTGGAGTCCCTC 1559  
Db 2037 GGUUCUGCGAGUAUCCGAGUGUCUUAUUCUNAGAAACGAGGAGUAGAGUCUUUA 2096  
QY AACGATTTCCATTAAGGCTTCGGTGGATAGTGTGATTAACAAGCAAAATGGCATCGGTGTC 1619  
Db 2097 GAGCAGUUUCAUUAUGGCAACCGGCAGAUUCUGUAUUGUAAGCAGAGAGCUCGUAUGUG 2156  
QY TACACTGGCTCACTCAAAAGTTCAAAATCAAGAACTATGTGCAAGTGTGGCAGCTTCG 1679  
Db 2157 UACACGGGUCGUAUUAAGUUUAGCAAAUAGAAACUUUAUCCUAGGCCUGGUAUCA 2216  
QY TTGTCGCCCACTGTATCAAAATCTATGCAAGTCACTAAAGATGAAGTCGGGTATGATTC 1739  
Db 2217 CUUUCUGCGGUGUGCAUUCUGUACAAGUCCUCAAAGUAUACGUGCUUAUGACCU 2276  
QY GATTCCAGGAGAAAGTTGGTGTGGATGTCTATTTGAAAAAGTGCGTCCCTCAAACT 1799  
Db 2277 GAAACCCGUCAAAAGUUUGAGUCUUGGAUUGCAUCUAGGAAGUGGUUAUACAACCA 2336  
QY CGGCCCAAGGTCAATTCATGGGAGTTGTCCTGGATTACAAGGGGAAAAATGTTTACTGCA 1859  
Db 2337 ACGCCAAGAGUCAUGCAUGGGGUGUGUUGAAACCCACCGAGGAAGUAUCAUGGGCG 2396  
QY CTTCTATCTTATGAAGAGATAGAAATGTGCTGAGAGCACTGGAGAGGGTGGCTGTA 1919  
Db 2397 CUUUGAUAUAGAGCAGGUGUGUGACAUGCGAUGAUUGGAGAAAGUAGUCUGUC 2456  
QY TCACTCGATACAATGGTATATCTGATATTGCAAGCTCCAAATCTGAGAAAAACAATG 1979  
Db 2457 AGCUCGAGUCUGUUGUUUAUCCGACAUGCGGAAACUCAGAAACUCUGCGCAGACUGCU 2516  
QY AGACACGGTGAACCCACAGCACTACTGCAAGATGTACTTGTGGATGGGTGCCTGCT 2039  
Db 2517 CGAAACGAGAACCGCAUGUCAGAGCGCAAGGUGUUGUUCUUGGACCGAGUUCGCGGC 2576  
QY TGTGAAAGTACAAGAGAGATTTTGAAGATTTTCATCTGATGAGGATTTGATCTTGGTT 2099  
Db 2577 UGUGGAAACCAAGAAAUUCUUCGAGGUUAUUAUUGAUGAUAUUAUUAUGUA 2636  
QY CTTGGAACCAAGCTGCTGTATGATCAGAGAAAGGCTAATTCATCTGCACTGATAAGA 2159  
Db 2637 CCUGGGAAGCAAGCCGCGGAAUUGAUCAGAGACGUGCGAAUUCUUCAGGGAUUAUUG 2696  
QY GCCCAATGCAATGTGAGAACGGTAGATTCACTTCTAATGCAT-----CCAAA 2210  
Db 2697 GCCACGAGGACAAACGUUAAACCGUUGAUUCUUCUUGAUGAAUUAUUGGAAAGCACA 2756  
QY CCGCGATCACAAAGAGGCTTTTATTGATGAAGGTTGATGTCACACCGGTTGTGTT 2270  
Db 2757 GCUUGCAGUUCACAGAGUUAUUAUUAUGAUGAAGGUGUUGAUUGCAUCUGGUGUGU 2816  
QY AACTTCCTGCTGCTTATCTCTGGTTGGACATCCGATACATTTACGAGATACACAGAG 2330  
Db 2817 AAUUUUCUGGCGAUGCAUUGGCAAAUUGCAUUAUUGUUAUUGGAGACACACAGCAG 2876  
QY ATTCTCTTCAATACAGATTTCAGAAATTCCTCCGTATCCCAACATTTTGGAGCTGCA 2390  
Db 2877 AUUCCAUAUCAUAGAGUUUAGGAUUCUUGAUUCCGCCCAUUUUGCCAAUUGGAA 2936  
QY GTGATGAAGTTGAGATGAGAGGAGCACCACTGAGATGCCAGGTGATGTGAATTTTTC 2450  
Db 2937 GUUACGAGGUGGAGACACGAGAAUUAUCUUCUGUUGCAGCGGAUGUACACAUUAU 2996  
QY CTA CAATCGAAGTACGAAGAGCGGTGACACCACTTCACTGTACACGATCGGTCTCA 2510  
Db 2997 CUGAACAGGAUAUAGGCGGUUUGAUGAGCACUUCUUGGUAUUAUUAUUAUUGC 3056  
QY TCTGAGTGTAGGCGGTAAAGGAGTACTAAACAGTGTTCCTCAACCACTAAAGGGAA 2570

Db 3057 CAGGAGUUGCGGCGGAGCGCCGUGAUCAUAUCCGAUCUCAAAAACCUUGCAUGCAAG 3116  
QY ATTGTAACATTTCACTCAGGCTGATAAAATTTGAGTTAGAGAGAGGGCTATAAAGATGTG 2630  
Db 3117 AUCCGACUUUAUCCCAUUGGAAUAAAGACUCUCUGCUUUAAGAGGUUAUUCAGAUUU 3176  
QY AACACCGTTATGAGATCCAAGGAGAAACCTTTGAAGATGTGCTGCTGCTGATTTGACG 2690  
Db 3177 CACACUGUGCAUGAAGCGAAGCGAGACAUAUCUCUGAUGUUUCAUAGUUUAUUAUUA 3236  
QY GCAACTCCACTGACTCTGATTTTCCAAAGTCTTCCCGCATGTTCTAGTCTGCTGACTAGA 2750  
Db 3237 CUUACACAGUUCUUAUUGCAGAGAGACAGCCACAUGUUUGGUGCAUUGCAAGG 3296  
QY CACAAAAAGAGCTTCAAAATATTAACACCGTAGTGTAGATCTCTTTAGTACAGATAATAGT 2810  
Db 3297 CACACCUUGUCGUCAAAGUACUACUCUGUUGUAUGAUGAUUUAUGUAUCAUUAUA 3356  
QY GATTTGTCTTCTTAAGCTCTTCCCTTTTGAAGATGTATGCTGTAAGACGAGTAGTAGA 2870  
Db 3357 GAUCUAGAGAAACCUAAGCUGUAUUGUUAUUAUGAUGAUGAUGGUGCAUGCAGGAACACA 3416  
QY TACAATTTACAGATGATGAGTGTCTTCAAGAGTCAATCTCTTTGCGCAACACCTAAA 2930  
Db 3417 UAGCAUAUACAGAUUGACUGGUGUUAAGGUAUCCAUUCUUAUUGGACGCGCCAAAG 3476  
QY TCAGGAGACTTTCCAGATCTACAGTTCTATTACGATGTATGCTCTCTGTTAATAGTACT 2990  
Db 3477 ACUGGUAUAUUCUGAUAUGCAUUGUAUUAUGAUGAUGUGUCUCCAGGCAACAGCAC 3536  
QY ATACTTAAACAAGTATGATGCTGTACATGAGGTTACGTGATTAATAGTCTTAAATGTGAAG 3050  
Db 3537 AUGAUAUAUUAUUGAUGUCUGUUAUCCAGAGAGUUGACUGACAUAUUAUGAUGCAAA 3596  
QY GATTTGTCTTCTGATTTTCCAAAAGTATTCAGATGCCAAGAGAGTGAAACCATGTCTA 3110  
Db 3597 GAUUGCAUAUUGAUAUUGCUAAGUCUGUUGCUGCGCUAAGGUAUCAAUCAAACCAUA 3656  
QY GAGCCAGTTTGTGCTACCGCGGGAACCGCAAGGGGTGCGAGACTACTCGAAAAATCTG 3170  
Db 3657 AUACCUAUGGUACGAAACCGCGGAGAAAUUGCCAGCGCAGACUCUGGACUUAUUGAA 3716  
QY GTTGCATGATTAAGAAATTTCAACGACACAGACTGACGGGAGGATTTGACATTGAG 3230  
Db 3717 GUGCGAUGAUAUAAAGGAACUUUAACGACCGCGAGUGUGUCUGCAUCAUUAUUAUGAA 3776  
QY AGCACCGCATCTCTGTAGTAGATAAGTTTTTTTGATAGTATTATTTATAAAAAAGAAAA 3290  
Db 3777 AAUAUCUGCAUUAUUGAUAUAGUUUUUUAUUAUUAUUAUUAUUAUUAUUAUUA 3836  
QY TACAAAAAATATGCTGGAGTGAGACGAAGATTTCAATGATGAGATGGTTGGAAAAAC 3350  
Db 3837 AAACCAAAUAAAAAUGUUUCUUGUUCAGUAGAGAGUCUCUCAAUAGUGGUUAAGAAAG 3896  
QY AGGAAGAAGTACTATTGGACGACTGGGTAACTACAAATTTTACAGATCTCTCGCGCCATC 3410  
Db 3897 CAGGAACAGGUAACAAUAGGCCAGCGCAGAUUUUGAUAUUAUUGAUAUUGCCAGCAGUU 3956  
QY GATCAGTACAGACACATGATCAAGGGTCAACCAAAACAGAAAAATTGGAACCTTTCAATT 3470  
Db 3957 GAUCAGUACAGACACAUGAUUUAAGCACAAACCCAGCAAAAAUUGGACACUCUCAAU 4016  
QY AATGAATAACCTGCTGTGAAAACAATTTGCTACATTCGAAGCAGATCAACGGTATTTTG 3530  
Db 4017 ACGGAGUACCCGGCUUUGCAGCAUUGUGUACCAUUAUUAUUAUUAUUAUUAUUAU 4076  
QY GCCGTTTCTI--CAGAGCTTACAAGGTTCTGCTCAGGCACTTTGATTTCTAAGAAAGTTT 3587  
Db 4077 GGGCCGUGUUUAUUGAGUCUUUAUAGCAUAUUAUGGACAGUGUUAUUGCAGCAGAUUU 4136  
QY CTTTCTTTTACTAGGAAAACTCCAGAACAGATTCAGAAATTTTTTCTCGGATCTCGACTCG 3647  
Db 4137 UUGUUUUACAAGAAAGACACACAGCGCAGAUUUGAGGAUUUUUUCGAGAGAUUCUCGACAGU 4196





Db 837 AAGTTGACCTTTCTTTGGATCAGAGAGTACTCTTAATTAATGTCATAGTTATCTAAT 896  
Qy 366 ATCTTGCAATATGATGATTAATCTTACTTTCTCTGCTCTTAGTAGAAATAGTTTACTTTAAG 425  
Db 897 ATCTTAAGTATGTTGCAGAACTTACTTCGCGCTCTAATAGAGAGGTTTACATGAAG 956  
Qy 426 GAATTTTATGTCATAGGTTTAATACCTTGGTTTGTGTAATTTACCAAGTAGATACCTAT 485  
Db 957 GAGTTTTTATGTCACAGAGTTAATACCTGGTTTTGTAAAGTTTTCTAGAAATAGATACTTTT 1016  
Qy 486 ATCTGTACAGAGTGTAGCAAGTAGTGGGTGTCATAGTATGATCAGTTCTATAGAGCGATG 545  
Db 1017 CTTTTGTACAAAGGTGTGGCCCATTAAGTGTAGATAGTGGCAAGTTTTTACTGCAATG 1076  
Qy 546 GAAGACGCCCTTTGTTTACAGAAACCTTGGCCATGTTTCAACACTGAAAGAGCAATCTTT 605  
Db 1077 GAAGACGCATGGCATTACAAAAGACTCTTGCAATGTGCAACAGCGAGAGAACTCTCCTT 1136  
Qy 606 AGAGACACGGCTTCGGTTAACTTTTGGTTCCCTHAAGATGAAGGACATGGGTATAGTACCG 665  
Db 1137 GAGGATTCATCATCAGTCAATTACTGGTTTTCCCAAAATGAGGGATATGGTCATCGTACCA 1196  
Qy 666 CTGTTTCAGGCTTCTATTACAGCAAAAGATGCAAGGAGTGAGGTCATTGTTAAATCGT 725  
Db 1197 TTATTCGACATTTCTTTGGAGACTAGTAAGAGGCGCGAAGGACTTAGTGTCCAAG 1256  
Qy 726 GACTTCGTTTTACAGTGCCTTAATCATATCAGAACATATCAAGCCAAAGGCTTAACTTAC 785  
Db 1257 GATTTCTGTTTACAGTGCCTTAACCAATTCGACATACACAGCGGAAAGCTTTCATAC 1316  
Qy 786 CAGAACGTATATCTTTGCGGAGTCTAATAGATCCCGGTGATGAATCAATGTTGTTACT 845  
Db 1317 GCAAAATGTTTGTCTTTTTCGAATCGATTCGATCGAGGGTAAATCAATAACGGTGTGACA 1376  
Qy 846 GCTAGGCTGAATGGGATGTAGATAAAGCAATCTTCAACCTTGTCATGACATTTCTTC 905  
Db 1377 GCGAGGTCGAAATGGGATGTGACAAATCTTTGTACAACTTGTCCATGACGTTTAC 1436  
Qy 906 TTGCAGACTAAGCTGGCTGGCTTCAAGACGATATAGTAAATGGAAAGTTTTCGGTGCTG 965  
Db 1437 CTGCATACTAAGCTTGGCTTCTAAAGGATGACTTACTGATTAGCAAGTTTAGTCTCGGT 1496  
Qy 966 GATHAAGACCTTCTGAATTTATTTGGGATGAGTGGGCAAAATTTTGGAAAGTTTTC 1025  
Db 1497 TCGAAAACGGTGTGCCAGCATGTGTGGGATGAGATTTTCGCTGGCGTTTGGGAACGCAATTT 1556  
Qy 1026 CCACTATCAAGAGAGATGGTGAGCAGGAGAAATCTGGATGTAAGTGAGATGCTCTG 1085  
Db 1557 CCTCCGTGAAGAGAGGCTCTTGAACAGGAACTTATCAGATGGCAGGAGCGCAATTA 1616  
Qy 1086 AAGATCAAGATPCCAGATCTGTATGTGCACATGGAAGACAGGTTTCGTAGCTGAATACACC 1145  
Db 1617 GAGATCAGGTTGCTGATCTATATGTGACCTTCCACGACAGATTAGTGACTGAGTACAAG 1676  
Qy 1146 AAGTCTAGAGGTTTACCGCATCTAGATATCAAGAGGACTTAGAAGAGCTGAGCAATG 1205  
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Qy 1206 TACGACCGTTATCAGAAATATCTATCTTAAGGGTCTGATATTTTCGATATCCGGAAG 1265  
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Qy 1386 GTGGCTAAGGCTCT- - - - -TAAAGACACGCGCTCTGAGGCGGTGATGTTCTTGAACCG 1439  
Db 1917 GTTGGCTAGCTTTACAGGATCAAGAGAGGCTTCAGAAAGTGTCTTTGGTAGTTTACCTCA 1976

Qy 1440 ACATCCGAAGAGGTGAACGCTAAATAAATTTTCTATTGCTGAGAAAGGAGATTCCTGTG 1499  
Db 1977 AGAAGAGTTTGAAGAACCGTCCATGAAGGGTTTCGATGGCCAGAGAGAGTTCACAAATTAGCT 2036  
Qy 1500 TGTGCAGAAAGTCAATGGTTTGAAGAAATGCTAACTTAGAGCACCAGAGAGTTTGGAGTCCCTC 1559  
Db 2037 GGTCTTGTCTGGAGATCATCCGGAGTCTGCTTAATCTTAAGAACCGAGGAGATAGAGTCTTTA 2086  
Qy 1560 AACGATTTCCATTAAGGCTTGCCTGGATAGTGTGATTAACAAGCAAAATGGCATCGGTTGTC 1619  
Db 2097 GAGCAGTTTCATATGSCAACCGCAGATTCGTTAATTCGTAAGCAGATGAGCTCGATTGTG 2156  
Qy 1620 TACATGGCTCTACTCAAAAGTTCAACAAATGAAGAACTATCTGGACAGTTTGGCAGCTTCG 1679  
Db 2157 TACACGGGTCGGATTAAGTTTCAAGAAATGAAAAACTTTATCGATAGCTCTGGTAGCATCA 2216  
Qy 1680 TTGTCGCCACTCTATCAAAATCTATGCAAGTCACTAAGGATGAGTCCGGTATGATCT 1739  
Db 2217 CTATCTGCTGCGGTGCGAATCTCGTCAAGATCCTCAAGATACAGCTGCTATTGACCTT 2276  
Qy 1740 GATTCAGGGAGAGAAAGTTGGTGTTCGGATGTCTCACTTTGAAAAAGTGGCTCCTCAAACT 1799  
Db 2277 GAAACCGCTCAAAAGTTTGGAGTCTTGGATGTTGCACTTAGGAAGTGGTTAATCAAACT 2336  
Qy 1800 GCGGCCAAAGGTCATTCATGCGGAGTTGCTCTGGAATTAAGGGGAAAAATGTTTACTGCA 1859  
Db 2337 ACGGCCAAGAGTCATGATGGGGTGTGTTGAAACCCACGCGAGGAAGTATCATGTGGCG 2396  
Qy 1860 CTTCTATCTTATGAAGAGATAGAAATGGTGACCTGAGAGCGACTGGAGGAGGGTGGCTGTA 1919  
Db 2397 CTTTGGAAATATGATGAGCAGGGTGTGGTACATGCGATGATTGGAGAGAGTAGTGTGTC 2456  
Qy 1920 TCATCTGATACAATGGTATATCTGATATTTCGAAAGCTCCAAATCTGAGGAAAAACAATG 1979  
Db 2457 AGCTCTGAGTCTGTTGTTATTCGACATGCGAAGCTCAGAACTCTGCGCAGACTGCTT 2516  
Qy 1980 AGAGACGGTGAACCCACGAACTTCTGAAAGATGCTCTGGAAGTGGTCTGTTGGAGTGGCTGGT 2039  
Db 2517 CGAAACGAGAACCGCATGTGAGTGGCAAGGTTGTTCTTGTGGACGGAGTTCCGGGC 2576  
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Db 2577 TGTGGAAAAACCAAGAAATCTTTCAGGGTTAAATTTTGTGAAGATCTAAATTTTAGTA 2636  
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Qy 2160 GCCAATGGAATGTGAAACGGTAGATCTCTTCTTAATGCAAT- - - - -CCAAA 2210  
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Db 2757 CGCTGTCAGTTCAAGAGGTTTATTCATTTGATGAAGGGTTGATGTTGCAATCTGTTGTTGTT 2816  
Qy 2271 AACTTCTGCTGTCTTCTCTGGTTCGCAATCGCATACATATTTACGGAGATACACAGCAG 2330  
Db 2817 AATTTCTTGTGGCGATGTCATTTGCGAAATTTGCAATATGTTTACGGAGACACACAGCAG 2876  
Qy 2331 ATTCTTTTCAATTAACAGAGTTTCAGAAATTTCCGTTATCCCAAAACATTTTGAAGAGCTGAA 2390  
Db 2877 AATTCATACATCAATAGAGTTTCAGGATTCGCCGTACCCGCCCAATTTTGGCAATTTGAA 2936  
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Db 2997 CTGAACAGGAGATATGAGGCTTTGTCTATGAGCACTTCTTCCGTTTAAAGAGTCTGTGTTGCG 3056

QY 2511 TCTGAGATGATAGCGGTAAAGGAGTACTAAACAGTGTTCCTCAACACCTAAAGGAAA 2570  
 Db 3057 CAGGAGATGGTCGGCGGAGCGCGGTGATCAATCCGATCTCAAAACCCCTTGCATGGCAAG 3116  
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 QY 2631 AACCCGTTTCATGAGATCAAGGAGAAACCTTTGAAGATGTCTCGTGTGATGTTGACG 2690  
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 QY 2691 GCAACTCCACTGACTCTGATTTTCCAAAGTCTTCCCGCATGTTTCTAGTCTGCTCTAGATA 2750  
 Db 3237 CCTACACAGTCTCCATCATTCAGGAGAGACGCCACATGTTTGGTGGCATTTCAAGG 3296  
 QY 2751 CACAAAGAGGCTTCAATATTTACACCGTAGTGTGTAGATCCCTTTAGTACAGATTAATAGT 2810  
 Db 3297 CACACCTGTTCGCTCAAGTACTACACTGTTGTTATGGATCCCTTTAGTTAGTATCATTAGA 3356  
 QY 2811 GATTTGTCTTCTTAAGCTCTTCTTTTAAAGATGTATATGTAGAAATGTATGTAGAACGAGTGTAGTA 2870  
 Db 3357 GATCTAGAGAACTTAGCTGCTACTTGTAGATATGTATAGGTGATGAGTGCAGAGAACACAA 3416  
 QY 2871 TAGCAATTAACAGATGGATGAGTGTCAAAGTCTAAATCTCTTTGTGGCAACACCTAAA 2930  
 Db 3417 TAGCAATTAACAGATGACTCGGTGTCAAAGTCTCAAATCTTTTGTGGCAGCGCAAG 3476  
 QY 2931 TCAGAGAGCTTTCAGATCTCAGTTCTAATTAAGATGATGCTCTCGCTGTTAATAGTACT 2990  
 Db 3477 ACTGGTGTATTTCTGATATGAGTGTCTTACTATGATAGTGTCTCCAGGCAACAGACC 3536  
 QY 2991 ATACTTAACAGTATGATCTGTACCATGAGTGTACGTGATTAATAGTCTTAAATGTGAAG 3050  
 Db 3537 ATGATGAATATTTGATGCTGTACCATGAGTGTGATGATCTTCAATTTGATGTGCAAA 3596  
 QY 3051 GATTTGTGTTCTTGAATTTTCCAAAGTATTCGGATGCCAAAGGAGGTGAACCATGTCTA 3110  
 Db 3597 GATTCATATGATGATGTCTAAGTCTGTGTGCGCTTAAGATCAATCAACACCTA 3656  
 QY 3111 GAGCAGATTTTGGTACCGCGGGAACCGCCAGGCTGAGGACTACTCGAAATCTG 3170  
 Db 3657 ATACCTATGATGAACCGCGGAGAAATGCCACGACCTGAGCTATTTGGAAATTTA 3716  
 QY 3171 GTTCAATGATTAAGAAATTTCAACGACGACGACCTGACGCGGAGGATTCACATTTAG 3230  
 Db 3717 GTGGGATGATTAAGAGAACTTTAAACGACCGAGTGTCTGCGATCATTTGATTTGAA 3776  
 QY 3231 AGCAGCGCATCTGTTGATGATAGTATTTTGTAGTACTATTTTATTAAGAAAGAAA 3290  
 Db 3777 AATAGTCACTTTAGTTGATAGTATTTTGTAGTTATTTGCTTAAGAAAGAAA 3836  
 QY 3291 TACAAAAAATATTTCTGAGTATGAGAGGATTCATGATGAGATGTTTGGAAAC 3350  
 Db 3837 AAACCAATATAAATGTTCTTTGTTTCACTAGAGTCTCTCAATAGATGTTTGAAGAA 3896  
 QY 3351 AGGAAGAGTACTATTGACGACTTGGCTTAACATCAATTTTACAGATCTGCGGCCATC 3410  
 Db 3897 CAGGAAACAGGTAAATAGGCGAGCTTTCAGATTTTGTAGATTTGCCAGAGTT 3956  
 QY 3411 GATCAGTACAGCAGATGATCAAGGCTCAACCAAAACAGAAATTTGACCTTTCAATTCAG 3470  
 Db 3957 GATCAGTACAGCAGATGATTAAGCAACCAACCAAGCAAAATTTGACACTTCAATCCAA 4016  
 QY 3471 AATGAATACCTGCTCTGCAAAATTTGTTTACCATTCGAAGCAGATCAACGATATTTTG 3530  
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 QY 3531 GCGGTTTCT---CAGAGTTTACAGGTTGCTGCTCGAGGCTATTCATTTCAAGAGTTT 3587  
 Db 4077 GCGCCGTTGTTAGTGAGCTTTACTAGGCAATTTACTGACAGTGTGTTGATTTGAGCAGATTT 4136  
 QY 3588 CTTTCTTACTAGGAAACTCCAGAACAGATTTCAAGAAATTTTCTCGGATCTCGACTCG 3647

Db 4137 TTGTTTTTCAAGAAAGACACCGAGGATTTGAGGATTTCTTCGGAGATCTCCACAGT 4196  
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 QY 3708 TTTCAATGTGTAGATGATGAAATATGGAAGATTTGGGTCTCAATGAGTTTGGCC 3767  
 Db 4257 TTCCACTGTGAGTAGAATACAGATCTGGCGAAGATTTGGGTTTGAAGACTTCTTGGGA 4316  
 QY 3768 GAGTGTGGAACAGGCGCAGGAAACAACTTTGAAGGATTAATTCCTGCGAATCAAG 3827  
 Db 4317 GAGTGTGGAACAGGCGCATAGAAAGACCCCTCAAGGATTAACCGCAGGATATAAAA 4376  
 QY 3828 ACATGTCTGTGATCAAAAGGAAAGCGGTGATGTGACTTCTTTCATCGGCAATACTGTT 3887  
 Db 4377 ACTTGATCTGTATCAAGAAAGAGCGGAGCTGACGAGCTTCAATTTGGAAACACTGTG 4436  
 QY 3888 ATAAATGAGCTGTCTGGGTTCATGTTACGATGGAAGAGTTCATAAAGGTCGTTTT 3947  
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 QY 3948 TGTGAGAGAGTTCGTTTTGTTTCCAAAGGTTTGGATTTCCCTGACATTCAGTCA 4007  
 Db 4497 TCGGTGAGAGTGTCTGCTGCTTCTTCCAAAGGTTTGGATTTCCCGATGTGCAACAC 4556  
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 QY 4068 TGTGTAGATACATCATCACCATGATAAGGAGCAATAGTGTATATGATCTTTGAAG 4127  
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 QY 4128 TTGATCTCAAACTTTGGGCGCAAAACATATCAAGGATTAATGATCCTTAGAAGAGTTAAG 4187  
 Db 4677 TTGATCTCGAACTTTGGTGTCTTAAACATCAAGGATTTGGAACTCTGGAGAGTTTCA 4736  
 QY 4188 GTGCTTTGTGCGATGTTGTTTGGTCTCGGAAACTGCTGCTTAGGCTTTCCGAGCTG 4247  
 Db 4737 AGGTTCTTTGTGATGTTGCTGTTTCTGTT---GAACAATTTGCGGTATACACAGTTG 4793  
 QY 4248 AACGAGCTATCAAGAGGTTTCATAAACCGCGATTTGATGTTGCTGCTTTTAAATGTT 4307  
 Db 4794 GAGCAGCTGTATGGAGGTTTCAAGACCGCCCTCCAGGTTGCTGTTTATATAAAAGT 4853  
 QY 4308 GTTAAACAAATTTTGTGTGATTAATTTTATTTAGAACTTTGTTTAAATGCTGTTAG 4367  
 Db 4854 CTGGTGAAGTATTTGCTGATAAAGTCTTTTATAGAGTTTCTTTATAGATGGCTCTAGT 4913  
 QY 4368 TCTCAGAGATCTGTCAAAATTTAGCGAGTTTCAATGATCTTTTCGAAACAGGATGAGATACT 4427  
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 QY 4428 TCCGCAATTCATGACTAAGGTCAAGAGTGTAGAAATATCGACTGTGGAAGAATATGCG 4487  
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 QY 4488 TGTAAAGATGATGATCTTTCTGATGATGATTTTACTTAAAGGTTTAAAGTTAGTTAAGAA 4547  
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 QY 4608 CCGTGTGTGTGCTGAGTGTGTTGTTATTTAGTAAAGAAATGAAGAGGATGAAGAGCAAC 4667  
 Db 5154 CAGAGGAGTGTGAGGCTGTGCTGTTGCGACAAAGAGTGAAGAGCGGAGGCCAC 5213  
 QY 4668 GCTGGTGTGATCATCGCCCTGCTTGTGCAAAAGAAATTTTCTTTTAAAGCTAATCCCTAA 4727

Db 5214 TCCTGGATCTTACTACACAGCAGCTGCAAGAAAGAAATTTCAAGTTCAGTTCCTCCAA 5273  
 Qy 4728 TTATTCATTAACATCCGAGGATGCTGAGAACACCCGTCGCAAGTGTAGTGAATATCAA 4787  
 Db 5274 TTATGCTATAACACCCAGCAGCGGATGAAAGAGCTCTGCGCAAGTTTGTAGTAAATATTAG 5333  
 Qy 4788 AGGATGCGCTATGAAAGAGATACCTGCTCTTTATCTTTGAGGATGCTGTTCAATTTGTGT 4847  
 Db 5334 AAATGTGAAGATGTGACGGGTTTCTGTCGCTTTCTCTGAGGTTTGTGTCGGTGTGTAT 5393  
 Qy 4848 AGTACATAAAATAATGTAAGAAAGGTTTGGAGGACGTTATTTGAGTGTGACAGCGG 4907  
 Db 5394 TGTTATAGAAATAATAATAAATTAGGTTTGAAGAGAAATACAAAGCTGAGAGCGG 5453  
 Qy 4908 CTCGCCAATTAACCTACTGAAAGAGTGTGTGAGGAGTTCGTGGATGAAGTACCAATGGC 4967  
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 Qy 4968 TGTGA 4972  
 Db 5514 GATCA 5518

RESULT 14

US-10-280-913A-1  
 ; Sequence 1, Application US/10280913A  
 ; Publication No. US20040110130A1  
 ; GENERAL INFORMATION:  
 ; APPLICANT: Latgre Scale Biology Corporation  
 ; TITLE OF INVENTION: POPULATION OF POLYNUCLEOTIDE SEQUENCE VARIANTS  
 ; FILE REFERENCE: LSBC-PLGS392-CIP  
 ; CURRENT APPLICATION NUMBER: US/10/280,913A  
 ; CURRENT FILING DATE: 2002-10-25  
 ; PRIOR APPLICATION NUMBER: 60/402,342  
 ; PRIOR FILING DATE: 2002-08-08  
 ; PRIOR APPLICATION NUMBER: 10/066,390  
 ; PRIOR FILING DATE: 2002-02-01  
 ; PRIOR APPLICATION NUMBER: 60/268,785  
 ; PRIOR FILING DATE: 2001-02-14  
 ; PRIOR APPLICATION NUMBER: 60/266,386  
 ; PRIOR FILING DATE: 2002-02-02  
 ; NUMBER OF SEQ ID NOS: 35  
 ; SOFTWARE: PatentIn version 3.1  
 ; SEQ ID NO 1  
 ; LENGTH: 10600  
 ; TYPE: DNA  
 ; ORGANISM: Artificial Sequence  
 ; FEATURE:  
 ; OTHER INFORMATION: TMV infectious clone containing CEL I gene  
 US-10-280-913A-1

Query Match 40.8%; Score 2031; DB 19; Length 10600;  
 Best Local Similarity 63.6%; Pred. No. 0;  
 Matches 3169; Conservative 0; Mismatches 1795; Indels 21; Gaps 4;  
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 Db 537 AAAACAGTCCCAACTTCCAAAGGAAGACATTTGACAGATACGACAGAAATTCCTGGAAGAC 596  
 Qy 66 GTCTGCTGCTTAAACTTTTTCAGGATTTGTCGAATATACATCCGCCAGAGATAGTGGTGA 125  
 Db 597 GCTGCTGTGTCATATCTTCCAGACAAATGCGACATCAGCCGATGACGATATCAGGAG 656  
 Qy 126 AGATACGCTGTGCTGCAAGTTTGTATGATATTCCTGTGATGAGTTTGGAGCTGCG 185  
 Db 657 GTGTATGCCATTGCGCTACAGCATATATGACATACAGCCGATGAGTTTCGGGGCGCA 716  
 Qy 186 TTAATATCTAAGATATACATGATATGTTATGACGCTTCCATTTTGGCAGAGCATTTATTA 245  
 Db 717 CTCTTGGAGAAAATGTCCATACGTGCTATGTCGCTTTTCCACTTCTCTGAGAACTGCTT 776  
 Qy 246 CTAGACAGAGCGGAGTTTACGCTTAATGAATAGCGCAACTTTCAAGAGAGAGGTGAT 305

Db 777 CTTGAAGATTCATACGTCAATTTGGAGGAAATCAAACGCGTGTGTTTTTCGCCGATGGAGAC 836  
 Qy 306 GATGTTTCTTTTTTCTTCTGATGAAAGTACTTTTAAATTTATATAGTCATAAATACAAAAT 365  
 Db 837 AAGTTGACCTTTCTTTTGCATCAGAGAGTACTCTTAAATTTATTTGTATAGTTATCTAAT 896  
 Qy 366 ATCTTGCAATATGATAGTAAATCTTACTTTCTGCTCTCTAGTAGAATAGTTTACTTTAAG 425  
 Db 897 ATTCTTAAAGTATGTGTGCAAAACTTCTTCCCGGCTCTAAATAGAGAGGTTTACATGAAG 956  
 Qy 426 GAATTTTTAGTCACTAGGTTTAAATCTTGGTTTGTAAATTTTACCAAAAGTAGATACCTAT 485  
 Db 957 GAGTTTTTAGTACACAGAGTTAATACCTGGTTTGTAAAGTTTCTAGANATAGATACTTTT 1016  
 Qy 486 ATTCTGTACAAGAGTGTAGACAAGTAGGGTGTGATGATGATCAGTTCTATAGAGCGGATG 545  
 Db 1017 CTTTTGTACAAAGGTGTGGCCATAAAAGTGTAGATAGTGAGCAGTTTTTATATCTGCAATG 1076  
 Qy 546 GAAGACGCTTTGCTTTACAAGAAAACCTTGGCCATGTTCAACACTGAAAGAGCAATCTTT 605  
 Db 1077 GAAGACGCTATGGCATTTACAAAAGACTCTTGGCAATGTGCAACAGCGAGAGAATCTCTCTT 1136  
 Qy 606 AGAGACACGCTTTCGGTTAACTTTTGGTTCCCTAAGATGAAGACATGGTATAGTACCG 665  
 Db 1137 GAGGATTCATCATCACTCAATTTACTGTTTCCAAATAGGGGATATGGTCACTGACCA 1196  
 Qy 666 CTGTTTGAAGGTTCTATTACCAGCAAAAGATCAAGAGGATGAGGTCATTTGTTAAATCGT 725  
 Db 1197 TTATTGCAATTTCTTTGGAGACTAGTAAGAGGACGCGCAAGGAAGTCTTAGTGTCCAAG 1256  
 Qy 726 GACTTGTTTACAGTGTCTTATCATATCAGAACATATCAAGCCAAAGCGTTAACTTAC 785  
 Db 1257 GATTTGCTGTTTACAGTGTCTTAAACCATTCGAAACATACAGCGGAAAGCTCTTACATAC 1316  
 Qy 786 CAGAACGTATTATCTTTCTGTTGAGTCTATAAGATCCCGCTGATATCAATCAATGGTGTACT 845  
 Db 1317 GCAATGTTTTGTCCTTTGTCGAATCGATTCGAGGTATCATTAACGGTGTGACA 1376  
 Qy 846 GCTAGGTCGAATGGGATGATGATAAAGCAATTTCTTCAACCTTGTCAATGACTTTCTTC 905  
 Db 1377 GCGAGGTCGAATGGGATGAGCAAAATCTTTGTACAACTCTTGTCCATGACGCTTTTAC 1436  
 Qy 906 TTGACACTAAGCTGGCTGGCTTCAAGACATATAGTATGGAAGTTTTCGGTGTCTG 965  
 Db 1437 CTGCATCTAAGCTTGGCTTCTTAAAGGATGACTTACTGATAGCAAGTTTAGTCTCGGT 1496  
 Qy 966 GATAAGACCACTTCTGAACCTTATTTGGGATGAGTGGGCAAAATTTTTTGGAAAGCTTTTC 1025  
 Db 1497 TCGAAAACGGTGTGCCAGCATGTGTGGATGAGATTTGCTGGGCTTTGGNACGCATTT 1556  
 Qy 1026 CCACATATCAAAGAGAGATGGTGGAGCAGGAAAATTCCTGATGTAGTGAATGCTCTG 1085  
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 Qy 1086 AAGATCAAGATCCAGATCTGTATGTCACATGGAAGACAGGTTTCGTAGCTGAATACACC 1145  
 Db 1617 GAGATCAGGTTGCTGCTGATCTATATATGACCTCCACACAGATTTAGTACTGAGTACAG 1676  
 Qy 1146 AAGTCTGAGGAGTTACCGCATCTAGATATCAAGAAGGACTTAGAAGAGCTGAGCAATG 1205  
 Db 1677 GCCTCTGTGACATGCTCGGCTTGACATTTAGGAAGAAGATGGAAGAAACGGAAGTGTATG 1736  
 Qy 1206 TAGACGCGTTATCAGAAATTTATCTATCTTAAAGGGTCTGATTAATTTTCGATATCCGAAG 1265  
 Db 1737 TACAATGCACTTTTCAAGGTTATCGGTGTTAAGGGAGTCTGACAAATTCGATGTTGATGTT 1796  
 Qy 1266 TTCAAGACATGTGCAAGGCTTTAGATGTTAGTCTGATGTGGCAGCACCGAGTAATCGTT 1325  
 Db 1797 TTTTCCAGATGTGCCAATCTTTGGAGTTGACCAATGACGCGAGGAGGTTATAGTC 1856  
 Qy 1326 GCAGTGGCCGAGAAATAGAAGCGGTTTAACTTTTACTTTTGAATAGCCAAACGAGGAGAAAT 1385  
 Db 1857 GCGGTATGAGCAATGAGAGCGGTCTGACTCTCACATTTGAAACGACCTACTGAGGCGAAT 1916

QY	1386	GTGGCTAAGGCTCT-----TAAAGACACGGCGCTCTGAGCCGTGGTATGCTCTTGAAACCG	1439
DB	1917	GTTCGCGTAGCTTTACAGGATCAAGAGAGGCTTCAGAAGGTGCTTTGGTAGTTACTCTCA	1976
QY	1440	ACATCCGAGAGAGTGAACGTAAATAAATTTTCTATGTCTCGAGAAAGGAGATTGCCGTGTC	1499
DB	1977	AGAGAAGTTGAAGAAACCGTCCATGAGAGGTTTCGATGGCCAGAGAGAGTTTACAATTAGCT	2036
QY	1500	TGTGCGAAGAAAGTCAATGGTTTGCACCAATGCTAACTTAGAGCACCGAGAGTTGGAGTCCCTC	1559
DB	2037	GGTCTTGCTGGAGATCATCCGGAGTCGTCTATTTCTAAGAACCGAGGAGTAGAGTCTTTA	2096
QY	1560	AACGATTTCCATAAGGCTTCGGTGGATAGTGTGATTACAAAGCAAAATGGCATCGGTGTC	1619
DB	2097	GAGCAGTTTCATATGGCAACGGCAGATTTCGTTAATTCGTAAAGCAGATGAGCTCGATTGTG	2156
QY	1620	TACACTGGGTCACTCAAAAGTTCAACAATGAAGACTATGTGTGCACATTTGGCAGCTTCG	1679
DB	2157	TACACGGTCCGGAATTAAGTTTCAGCAATGAAAACCTTTATTCATAGACCTGGTAGATCA	2216
QY	1680	TTGTCCGCCACTGTATCAAAATCTATGCAAGTCACTAAAGGATGAAGTCGGGTATGATCT	1739
DB	2217	CTATCTGCTCGGTGTGCAATCTCGTCAAGATCCTCAAAGATACAGCTGCTATTGACCTT	2276
QY	1740	GATTCAGGAGAGAAAGTTGGTGTGGGATGTGCACTTTTGAAAAAGTGGCTCTCAAAACCT	1799
DB	2277	GAAAACCGTCAAAAGTTTGGAGTCTTGGATGTGTGCATCTAGGAAGTGGTTAATCAAAACA	2336
QY	1800	GGCGCCAAAGTCAATTCATCGGGAGTTGTCTCGATTTACAAGGGGAAAAATGTTTACTGCA	1859
DB	2337	ACGGCCAAAGATCATGATCGGGGTGTGTTGAAACCCACCGAGGAAGTATCATGTGGCG	2396
QY	1860	CTTCTATCTTATGAAGGAGATAGAAATGGTGACTGACGACGACTGGAGAGGGTGGCTGTA	1919
DB	2397	CTTTTGGAAATATGATGAGCAGGGTGTGTGCATCGCATGATTTGGAGAACGATAGCTGTC	2456
QY	1920	TCATCTGATACAATGGTATATTCGATATTGCGAAGCTCCAAATCTGAGGAAAAACATG	1979
DB	2457	AGCTCTGAGTCTGTGTGTTTATTCGACATCGCGAAACTCAGAACTCTGCGCAGACTGCTT	2516
QY	1980	AGAGACGGTGAAACCCACGAACTACTGCAAAAGATGTACTGTGGATGGGGTGCCTGGT	2039
DB	2517	CGAAACGGAGAACCGCATGTGATGCGCAAGGTTGTTCTTTGGACGAGATTCGGGC	2576
QY	2040	TGTGGAAGTACAAAGGAGATTTTGAAGATTTTCATCTTCATGAGGATTTGATCTTTGGTT	2099
DB	2577	TGTGGGAAACCAAAGAAATTTCTCCAGGTTAATTTTCATGAAGATCTAAATTTAGTA	2636
QY	2100	CCTTGGAAAAACAAAGGCTATGATCAGAAAGAGGCTAATTCATCTGACATGATNAGA	2159
DB	2637	CCTGGGAAGCAAGCCGCGAAATGATCAGAAAGACGTGCGAATTCCTCAGGGAATTAATGTC	2696
QY	2160	GCCAATGACAAATGTGAGAACGGTAGATTCACTTCTAATGCAT-----CCAAAA	2210
DB	2697	GCCACGAGAGCAACGTTAAACCGTTGATTTCTTCAATGATTAATTTGGGAAAAACACA	2756
QY	2211	CCGCGATCACAAAGGCTTTTTTATGATGAAGGTTGATGTGCAACACCGGTGTGTT	2270
DB	2757	CGCTGTCAAGAGGTTAATCATTTGATGAAGGGTTGATGTGTCATCTGGTTGTGTT	2816
QY	2271	AACCTCTGGTCTTATCTCTGGTTGGCATCGCATACATTTACGAGATACACAGCAG	2330
DB	2817	AATTTTCTGTGGCGATGTCAATGTGCGAAATTTGCATATGTTTACGGAGACACACAGCAG	2876
QY	2331	ATTCTTTCTATTAACAGAGTTTCAGAAATTTCCGTTATCCCAAAACATTTTGAGAAGCTCAA	2390
DB	2877	ATTCCATACATCAATAGATTTCAAGATTCGCTACCCGCCCATTTTGGCAAAATGGAA	2936
QY	2391	GTGGATGAAGTTGAGATGAGGAGGACCACTGAGATGCCAGGTGATGTGAATTTTTTTC	2450
DB	2937	GTTGACGAGGTGAGACACGAGAACTACTCTCCGTTGTCCAGCCGATGTCAACATTAAT	2996

Qy	2451	CTACAATCGAAGTACGAGAGGAGCGGTGACAAACACACTTCAA	CTGTCTCA	2511
Db	2997	CTGAACAGGAGATATGAGGGCTTTGTGTCATGAGCACCTTCTTCG	TTAAAAAGTCTGTTTCG	3056
Qy	2511	TCTGAGATGATACGGCTTAAGGAGTACTAAACAGTGTCTTCCAA	CCACCTAAAGGGA	2570
Db	3057	CAGGAGATGTCGGCGGAGCGCGGTGATCNAATCCGATCTCAAA	CCCTTGCATGCAAG	3116
Qy	2571	ATTGTAACTTCTACTCAGGCTGATAAATTTGAGTTAGAGGAGA	GGGCTATAGAATGTG	2630
Db	3117	ATCTGACTTTTACCCAACTCGGATAAAGAGCTCTGCTTTCAAG	AGGGTATTTCAGATGTT	3176
Qy	2631	AACACGGTTCATGAGATCCAAGAGAGAAA	CCCTTTGAAGATGTGTCGCTGTCAGATTCGACG	2690
Db	3177	CACACTGTGATGAAGTGCAGGCGAGACATACTCTGATGTTTTCT	CCTAGTTAGGTTAAACC	3236
Qy	2691	GCACCTCCACTGACTCTGATTTTCCAAAGTCTTCCCGCATGCTT	CTAGTCGCTCTGACTAGA	2750
Db	3237	CCTACACAGTCTCCATCATTTGAGGAGACAGCCCACTGTTTT	TGGTCGCAATTTGTCAAGG	3296
Qy	2751	CACACAAAGAGCTTCAAATATTACACGGTAGTGTAGATCCTTT	TAGTACAGATAATTTAGT	2810
Db	3297	CACACCTGTTGCTCTCAAGTACTACACTGTGTGTTATGGA	TCTTCTTAGTTAGTATCATTTAGA	3356
Qy	2811	GATTTGTCTTTTAAGCTCCTTCTTTTGA	AAATGTATGTGTAGAACAGGTTAGTAGA	2870
Db	3357	GATCTAGAGAAACTTAGCTCGTACTTGTGTAGATATGTATAAG	GTCTGATGCGAGAACACAA	3416
Qy	2871	TAGCAATTA	CAGATGATGACAGTGTTCAAAGGTCAATACTCTTTGTGGCAACACCTAAA	2930
Db	3417	TAGCAATTA	CAGATTTGACTCGGTGTTCAAAGGTTCCAACTCTTTTGTGCGCGCCNAAG	3476
Qy	2931	TCAGGAGACTTTCAGATCTACAGTTCCTATTACAGTGTATG	SCCTCCCTGGTAAATAGTACT	2990
Db	3477	ACTGGTGATTTCTGTATGCAAGTTTACTATGATAAGTGTCT	CCCGAGCAACAGCAC	3536
Qy	2991	ATACCTTAAAGTANGTCTGTTTACATCAGAGGTTAGTGAT	TAATAGTCTTTAATGTGAAG	3050
Db	3537	ATGATGAATAATTTTGATGCTGTTTACCATCAGGTTTGACT	GCACATTTCAITGAAATGTCAAA	3596
Qy	3051	GATTTGTCTTCTGATTTTCCAAAGTATTCCGATGCAAGAGG	TGAACCATGTCTA	3110
Db	3597	GATTTGCATA	TTGGATAATGTCTAAGTCTGTTGCTCGCCTTAAGGATCAATCAAA	3656
Qy	3111	GAGCCAGTTTGGGTACCGCGGGGAAACCCCAAGGCTG	CAGGACTACTCGAAAATCTG	3170
Db	3657	ATACCTATGTTACGACCGCGGCAGAAATGCCACGCCAG	ACTGGACTTTTGGAAATTTA	3716
Qy	3171	GTTGCAATGATTAAGAANAATTTCAACGCAACGACA	CTGTACGGGACGATTGACATTTGAG	3230
Db	3717	GTGGCGATGATTAAGAAGAACTTTAACGCCACCGCAG	TTGTCTGECATCAITGATTAITGAA	3776
Qy	3231	AGCACCCCATCTGTTGTAGTAGATAAGTTTTTTTTTGTAG	ACTATTTTATTAAGAAAGAAAA	3290
Db	3777	AATACTCCATCTTTAGTTGTAGATAAGTTTTTTTTTGTAG	TTATTTTGTAGTTTAAAGAAAGAAAAAGA	3836
Qy	3291	TACACAAAAAATATTTGCTGAGTGTACGAAAGGATTCA	ATGATGATGAGATGTTTGGAAAAAC	3350
Db	3837	AAACCAATATAAATGTTCTTTGTCAGTAGAGAGTCTCT	CAATAGATGTTTGAAGAAAG	3896
Qy	3351	AGGAAAGAGTACTATTGTCGACTTTGGCTTAACCTTAC	AAATTTTACAGATCTGCCGGCCATC	3410
Db	3897	CAGGACAGGTAAACAAATAGCCAGCTCGCAGATTTTGT	ATTTTGTAGATTTTGCACAGATTT	3956
Qy	3411	GATCAGTACAGACATGATCAAGGCTCAACCAAAACAG	AAATTTGGACCTTTCAATTCAG	3470
Db	3957	GATCAGTACAGACATGATTAAGACCAACCCCAAGCA	AAAAATTTGGACACTTCAATCCAA	4016
Qy	3471	AATCAATACCTGCTCTGCAAAACAATTTGTCTTACC	ATTTCGAAGCAGATCAACGGTATTTTG	3530
Db	4017	ACGGAGTACCGGGCTTTGACAGCAATTTGTGTACCA	TTTCAAAAAGATCAATGCAATATTT	4076
Qy	3531	GCCGGTTTCT---	CAGAGCTTACAAGGTTGCTGCTCGAGGCAATTTGATTTAAGAGTTT	3587

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Db 4077 GGCCTGTTGTTAGTGAGCTTACTAGGCAATTAATCGACAGTGTGTGATTCGAGCAGATTT 4136
Qy 3588 CTTTCTTTACTAGGAACTCAGAACAGATTCAAGAAATTTTCTCGGATCTCGACTCG 3647
Db 4137 TTGTTTTTCAAGAAAGACACAGCCAGATTGAGGATTTCTTCGGAGATCTCGACAGT 4196
Qy 3648 CAGCTTCTTATGATGTTGTTAGAACTGGAATATTCTTAAGTATGATAAGTCACAGAACGAG 3707
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Qy 3708 TTTCAATGCTGCTAGAGTATGAATATGAAAGATTGGGTCTCAATGATGTTTTGGCC 3767
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Qy 3768 GAAGTGTGGAACCAAGGGCACAGGAAACAACTTTGAAGGATTACATTTGCTGGAATCAAG 3827
Db 4317 GAAGTTTGGAAACNAGGGCATAGAAAGACCACTTCAAGGATTTATACCGCAGGTATAAAA 4376
Qy 3828 ACATGCTGTGGTATCAAGGAAAGCGGTGATGTGACTACTTTTCATCGGCAATACTGTT 3887
Db 4377 ACTTGCACTCTGGTATCAAGAAAGAGCGGACGTCACGACGTTCAATTGGAACACTGTG 4436
Qy 3888 ATATAGCAGCTGCTTGGGTTCAATGTTACCGATGGAAGGTCATAAAGGTGCTTTT 3947
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Db 4497 TCGGTGACGATAGTCTGTGACTTTTCCAAAGGGTTGTGAGTTTCCGGATGTGCAACAC 4556
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Db 4617 TCGGGAAGATGTGTAATACATACGACAGAGGATGCAATTTGTATATACGATCCCTTAAG 4676
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Db 4677 TTGATCTCGAACTTGGTGCTTAACACATCAAGATTTGGGAACACTTTGGAGGATTCAGA 4736
Qy 4188 GTGTCTTTGTGCGATGTTGCTGTTGCTCGCTCGGAACTGGTGCTTATGAGCTTTCCGACG 4247
Db 4737 AGGTCTCTTTGTGATGTTGCTGTTGCTGTTTCTGTTTCTGTTTCTGTTTCTGTTTCTG 4793
Qy 4248 AACGACCTATCAGGAGGTTTCATAAACCGGATTCATGGTTCGTTTCTTTTAAATGTT 4307
Db 4794 GACGACCTGTATGGGAGGTTTCATAAGACCGCCCTCCAGGTTGCTTTGTTTATATAAAGT 4853
Qy 4308 GTTAAACAAATTTTGTGCTGATAAATTTTATTAAGAACTTTGTTTAAATGGCTGTAG 4367
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Qy 4548 AGGATATGTGTGCTAGTATTTGGTAGTGTCTGGGAGTGGAAATCTCCCGGATAACTG 4607
Db 5094 TGGATACGTCTGTTTAGCCGTTTGGTCTGTCACGGCGAGTGGAACTTGCCTGCAAAATG 5153
Qy 4608 CCGTGGTGGTCACTGTTTCTATTTGATAGTAAGAAATGAAGGAGTGAAGGAGCAAC 4667
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US-10-684-134-1
; Sequence 1, Application US/10684134
; Publication No. US20040142433A1
; GENERAL INFORMATION:
; APPLICANT: Large Scale Biology Corporation
; TITLE OF INVENTION: POPULATION OF POLYNUCLEOTIDE SEQUENCE VARIANTS
; FILE REFERENCE: LSBC-PLG5392-CIP
; CURRENT APPLICATION NUMBER: US/10/684,134
; CURRENT FILING DATE: 2003-10-10
; PRIOR APPLICATION NUMBER: 60/402,342
; PRIOR FILING DATE: 2002-08-08
; PRIOR APPLICATION NUMBER: 10/066,390
; PRIOR FILING DATE: 2002-02-01
; PRIOR APPLICATION NUMBER: 60/268,785
; PRIOR FILING DATE: 2001-02-14
; PRIOR APPLICATION NUMBER: 60/266,386
; PRIOR FILING DATE: 2002-02-02
; NUMBER OF SEQ ID NOS: 35
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 1
; LENGTH: 10600
; TYPE: DNA
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: TMV infectious clone containing CEL I gene
US-10-684-134-1
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Query Match 40.8%; Score 2031; DB 19; Length 10600;
Best Local Similarity 63.6%; Pred. No. 0;
Matches 3169; Conservative 0; Mismatches 1795; Indels 21; Gaps 4;

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Qy 66 GTCTGCTGCTCTAAAACTTTTTCAGGATTTGTGCAATACATCCGCCAGAGAAATAGTGGTAGA 125
Db 597 GCTGCTGTCAATACTTTCCAGACAATCGCATCAGCCGATGCGCAATCAGGACAGA 656
Qy 126 AGATACGCTGTTGCTGTGACAGTTTGTATGATATTCCTGTGCAATGATGATTTGGAGCTGCG 185
Db 657 GTGTATGCCATTCGGCTTACACAGCATATATGACATACACCGCCGATGATGTTGGGGCGGCA 716
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Db 717 CTCCTTGAGAAAAATGTCCATACGTGCTATGCGCGCTTTCCACTTCTCTGAGAAACCTGCTT 776  
 Qy 246 CTAGACCGACGGAGTTACGCTTAAATGAATAGCGGCAACTTTCAAAGAGAGGTGAT 305  
 Db 777 CTTGAAGATTCTACGTCATTTGACCGAATCAACGCGTGTGTTTCGCGGATGGAGAC 836  
 Qy 306 GATGTTCTTTTCTTTCTGCTGATCAAGAGTACTTTAAATTAATAGTCAATAAATACAAAAAT 365  
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 Db 2337 ACGCCCAAGAGTCACTGATGGGAGTGTGTGAAACCCAGCGAGAGTATCATGTGGCG 2396  
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 Qy 2271 AACTTCTGCTGCTTACTCTGTTGCGCATCGCATACATTTTACGAGATACACAGCAG 2330  
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Db	5154	CAGAGGAGGTGTGACGGTGTCTCGTGGACAAAGGATGGAAAGCGCGAGGCCAC	5213
Qy	4668	GCTGGGTGGTATCACGCCCTGTCTTGCAAAAAGAAATTTTCTTTTAAAGCTAATCCCTAA	4727
Db	5214	TCTCGATCTTACTACACAGCAGCTGCAAGAAAGATTTCAAGTTCAAAGGTGTTCCCAA	5273
Qy	4728	TTATTCAATAACATCCGAGGATGCTGAGAGCACCCTGGCAGTGTAGTGAATATCAA	4787
Db	5274	TTATGCTATACCAACCCAGGACGCGATGAAAAACGCTCGGCAAGTTTGTAGTTAATATTAG	5333
Qy	4788	AGGAGTGGCTATGGAAGAAGGATACGTCTTTTATCTTTGGAGTTCGTTTCAATTGTGT	4847
Db	5334	AAATGTGAAGATGTGAGCGGGTTCTGTCCGCTTTCTCTGGAGTTTGTCTCGTGTGTAT	5393
Qy	4848	AGTACATAAAATAATGTAAAGAAAAGTTTGAGGGAACGTATTTTGGTGTGACAGCGG	4907
Db	5394	TGTTTATAGAATAATATAAATTAGGTTTGAGAGAGAAGATTACAAAACGTGAGAGACGG	5453
Qy	4908	CTCGCCAATTGAATCACTCAAGAAAGGTTGTTGAGGAGTTCGTGGATGAAGTACCAATGGC	4967
Db	5454	AGGGCCCATGGAACTTACAGAAAGATCGTTGATGAGTTTCATGGAAGATGTCCTTATGTC	5513
Qy	4968	TGTGA	4972
Db	5514	GATCA	5518

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Job time : 1905.98 secs

